JANOME Group
Green Procurement Guidelines
<First Edition>

Established in July 2011

JANOME Sewing Machine Co., Ltd.

Table of Contents

1. Environmental Preservation Activities

The JANOME Group (hereafter referred to as the “Group”) sets the “Environmental Policy” to carry out proper environmental management. Based on this policy, the Group has been promoting environmental management systems under ISO14001 and IT system operations in its environmentally conscious corporate activities—from product development to manufacture and sales—to follow the global trend toward reducing environmental burden and building a sustainable recycling-oriented society. To keep up our efforts, the Group thinks it indispensable to join hands with suppliers in continuous environmental conservation activities.

To push these activities forward, the Group has established the “JANOME Group Green Procurement Guidelines” (hereafter referred to as the “Guidelines”) that clearly set forth Group’s green procurement standards. When both the Group and its suppliers conform to these Guidelines and legal environmental requirements in countries throughout the world, we can further reduce environmental load sand risks in all the spheres of corporate activities.

The Group is committed to providing more eco-friendly products to customers through environmental activities conducted in concert with suppliers. Your understanding and corporation would be greatly appreciated.

2. JANOME Group Environmental Policy

Basic Principle

The JANOME Group considers environmental conservation in business activities and contributes to the sustainable development of society, with the recognition that “preserving the global environment in pursuit of harmony between people and nature” is one of the greatest challenges facing human society.

Policy

As the developer and manufacturer of sewing machines, 24-hour bath systems, electro-press machines, robots, and other types of industrial machinery, the JANOME Group performs environmental management based on the following policy:

1. Establish environmental objectives and goals based on the assessment of environmental impact caused by the company’s business activities, products, and services, and promote environmental conservation activities with the participation of all employees.
2. Draw up annual plans for the entire company as well as the Group, conduct environmental audits, review environmental management, and continually improve environmental management systems.
3. Comply with environmental laws, regulations, and agreements relevant to the company’s business activities and further promote environmental conservation.
4. Take the following measures to reduce environmental impact caused by business activities and prevent contamination by mobilizing environmental protection efforts:
   ① Increase resource recycling and reduce waste.
   ② Promote resource saving and energy saving.
   ③ Develop and offer environmentally conscious products.
5. Communicate the environmental policy to all the employees in the organization and raise environmental awareness through environmental education and PR activities within the company.
6. Actively publicize this environmental policy to customers, local communities, and other related parties.

3. Scope of Application

These Guidelines apply to the following parts and materials that constitute JANOME Group products. The Guidelines do not apply to chemical substances* used in research & development, equipment and facilities, office supplies, items provided by customers, and suppliers' manufacturing processes.

*The Guidelines may apply to chemical substances that are assumed to adhere to or remain in the following parts, materials, packaging materials, etc. at the time of product delivery.

① Parts (e.g., electric and electronic part, structural part, printed circuit board, pressed part, sintered part, plated part, mold)
Manufacturing materials (e.g., steel, plastic, iron powder, aluminum material, electric wire)
Preparations (e.g., solder, grease, lubricant, antirust oil, adhesive, ink, paint)
② Subsidiary materials (e.g., instruction manual, warranty card, video, DVD)
③ Packaging materials (cardboard, plastic bag, polyester band, compound wooden material, fastening material for packaging, foam material)
④ OEM products and merchandise

4. Terms and Definitions

Terms used in these Guidelines are defined as follows:

① RoHS Directive
RoHS is an abbreviation for the Restriction of the use of certain hazardous substances in electrical and electronic equipment. This Directive was promulgated on February 13, 2003. Article 4 specifies lead, mercury, cadmium, hexavalent chromium, PBB (polybrominated biphenyl), and PBDE (polybrominateddiphenyl ether) as certain hazardous substances, which should not be contained in products put on the EU market on and after July 1, 2006.

② REACH Regulation
REACH is an abbreviation for the Registration, Evaluation, Authorization, and Restriction of Chemicals. REACH, a comprehensive regulation on chemical substances, entered into force on June 1, 2007. This regulation requires all companies manufacturing or importing chemicals into the European Union to register chemical substances with the European Chemicals Agency and evaluate these substances. The regulation also requires the authorization or prohibition of substances of very high concern (SVHC) that have potential negative impacts, such as carcinogenicity, on human health and the environment.

③ Homogeneous materials

A homogeneous material is one that cannot be mechanically disjointed into different materials.

Examples: Each type of plastic, ceramic, glass, metal, plating, paper, printed-circuit board without components, coating

④ SVHC

An abbreviation for Substances of Very High Concern

SVHC includes carcinogenic substances, mutagenic substances, reproduction toxic substances, endocrine disrupters, and others. The European Chemicals Agency publicizes additional substances about twice a year. Several thousand substances are said to be contained in articles. In the future, use of SVHC may be banned in the European region.

⑤ CAS registry number

CAS is an abbreviation for Chemical Abstracts Service. CAS numbers, which uniquely identify chemical substances, are assigned by the chemical substance registration system operated and managed by CAS, a division of the American Chemical Society.

⑥ Article

An object which during production is given a special shape, surface or design, which determines its function to a greater degree than does its chemical composition.

Examples: sewing machine, tabletop robot, personal computer, TV, electronic components (capacitor, filter, lamp), and other parts (screw, bolt)

Examples of items not considered as articles: toner contained in a toner cartridge, ink in a ball-point pen, canned lubricant or petroleum products (These are considered as preparations in containers.)

⑦ Substance

A chemical element and its compounds in the natural state or obtained by any manufacturing process, including any additive necessary to preserve its stability and any impurity deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition.

Examples: lead (chemical element), salt oxide (compound), polyvinyl chloride (compound)

⑧ Preparation

A mixture made by intentionally mixing two or more chemical substances

Examples: solder before use, paint, ink, adhesive, alloy

⑨ Intended release

- The substance is intended to be released when it is indispensable for an article to realize its end use function. In other words, if the substance were not released, the article would not function sufficiently.

Examples: ink released from a felt-tipped pen,
detergent released from glass-cleaning wipers

- The release is intended when it contributes to the quality or an accessory function of the article. In other words, the release contributes to the added value of the article, which is not directly connected to the end use function
  Example: smell released from a scented eraser

⑩ JAMP

Acronym for the Joint Article Management Promotion Consortium

JAMP is a cross-industry consortium that manages information on chemical substances contained in articles. JAMP establishes and promotes systems for the smooth information disclosure and transmission in the supply chain

URL: http://www.jamp-info.com/

⑪ AIS

Acronym for the Article Information Sheet

AIS is a basic information sheet recommended by JAMP for the transmission of information on chemical substances in products. AIS contains data items concerning articles, such as “mass”, “part”, “material”, “presence/absence of regulated substances, material name, content, and concentration per article”. The sheet is used to deliver information to downstream users in the supply chain.

⑫ JGPSSI

Acronym for the Japan Green Procurement Survey Standardization Initiative

JGPSSI, a consortium of the electric and electronic equipment industry, standardizes the list of survey substances and survey response formats in order to reduce load on green procurement surveys and improve the quality of replies.

URL: http://www.db1.co.jp/jeita_eps/green/greenTOP.html

5. Request to Suppliers

To promote conformance with these Guidelines in cooperation with suppliers, the Group is conducting “evaluation of suppliers’ environmental preservation activities” and “management of information on chemical substances in products”. Suppliers are kindly asked to fill in and submit reports on required survey items (refer to the underlined sentences in bold in the following).
These Guidelines include major legal environmental requirements pertaining to the manufacturing materials, parts, subsidiary materials, and packaging materials that constitute the Group’s products. Note that the Guidelines do not cover all legal environmental requirements for materials, parts, and products in countries throughout the world.

5.1. Evaluation of Suppliers’ Environmental Preservation Activities

To flesh out the environmental principle based on the Group’s environmental policy, suppliers are requested to acquire environmental management system certifications (e.g., ISO14001). A supplier not certified by any third-party certification body may have to undergo audits by the Group.
Each supplier is asked to self-evaluate their environmental management system **using the “Environmental Preservation Evaluation Check Sheet” (Form 1) and submit the form**.

5.2. Management of Information on Chemical Substances in Products

The Group manages chemical substances in products, classifying them into the following three groups:

① Prohibited substances (requires reporting)
Substances presently banned from use in products by conventions, laws, and regulations; substances for which maximum concentrations are specified; substances whose inclusion in products will be prohibited after specified time limits

② Substances to be managed (requires reporting)
Substances that require tracking of content amounts, etc. to promote the appropriate management of chemicals
No restrictions are placed on intentional use of these substances, but the presence/absence of each substance, concentration, and other data must be monitored.

③ Substances to be reduced (requires monitoring)
Substances, other than those described in ① above, that are considered hazardous to humans and the environment; substances that require reduction and tracking of content amounts, etc.

Based on the above classification, we ask suppliers to conduct the following surveys and return responses concerning chemical substances in goods delivered to the Group:

Please submit the "Certificate of Nonuse of Prohibited Substances" (Form 2) to certify that none of the prohibited substances in category ① is contained in your product(s).
Also submit information on the inclusion of ① prohibited substances and ② substances to be managed, using the information transmission sheet AIS (JAMP) or JGP file (JGPSSI).

Classification of chemical substances in products and survey response forms specified by the Group

Classification	Response form (*1)
① Prohibited substances (Table 1)	- Form 2 Certificate of Nonuse - AIS/JGP file
② Substances to be managed (Table 2)	- AIS/JGP file
③ Substances to be reduced (Table 3)	- AIS/JGP file

*1 As for preparations/chemical substances, if it is difficult to make replies using the AIS/JGP file, MSDS plus (sheet for the transmission of information on preparations/chemical substances) may be used.
*2 Notify the Group of inclusion, if known, of substances that are not classified as (1) to (3) but subject to the environment-related chemical substance management standard (Group Regulation SE-0001).
*3 Suppliers are asked to notify the Group whenever they find new facts, inadequacies or typos in already reported data.

5.2.1. Details about Prohibited Substances

Table 1 lists substances banned from use in parts, materials, packaging materials, etc. that constitute Group's products, and describes the details of prohibition. Inclusion of these substances is prohibited in products or upper limit concentrations are specified by conventions, laws, and regulations. Some of these substances have time limits after which inclusion will be prohibited. The RoHS Directive regulates six substances—lead, mercury, cadmium, hexavalent chromium, PBB (polybrominated biphenyl), and PBDE (polybrominateddiphenyl ether). If any of the substances is in homogeneous material of a supplier's product in excess of the maximum concentration shown in Table 1, the supplier of the concerned product must report the substance content to the Group. Reporting is required even when the application of the substance is exempted from the RoHS requirements. As for the Administration of the Control and Electronic Information Products (China RoHS), no exemptions are allowed for each substance. Suppliers will be notified separately of measures to be taken for China RoHS.

5.2.2. Details about Substances to Be Managed

Table 2 lists substances that require tracking of content amounts in parts, materials, packaging, etc. that constitute Group's products, in order to promote proper management. Substances to be managed include substances of very high concern (SVHC) under the REACH Regulation.
The European Chemicals Agency website[1] publicizes updates to the candidate list of SVHC. Pay close attention to the latest information.

5.2.3. Details about Substances to Be Reduced

Table 3 lists substances that require reduction and tracking of content amounts in parts, materials, packaging, etc. that constitute Group's products. These substances are on the Trade Union Priority List [2]compiled by the European Trade Union Confederation as well as on the SIN List [3] of ChemSec. These substances may be added to the list of SVHC under the REACH Regulation. Suppliers are requested to reduce the use of these substances through replacement with alternatives or other means.

5.2.4. Reporting of Chemical Substances in Products

The Group requests suppliers to report chemical substances in products, using the AIS (JAMP) or JGP file (JGPSSI) format. Those who wish to use other formats are asked to consult the Group contact in advance.

- JAMP format
  - MSDS plus downloading site: http://www.jamp-info.com/msds
  - AIS downloading site: http://www.jamp-info.com/ais
- JGP files
  - Website publicizing Survey Response Tools Ver.4.11 and Manuals: http://www.db1.co.jp/jeita_eps/green/green_JIG_V411.htm
  - Survey Response Tools Ver.4.11 "Excel Version" downloading site: http://www.db1.co.jp/jeita_eps/green/greendata/JIG_V4/110311_JGPSSI_tool-V4.11.xls

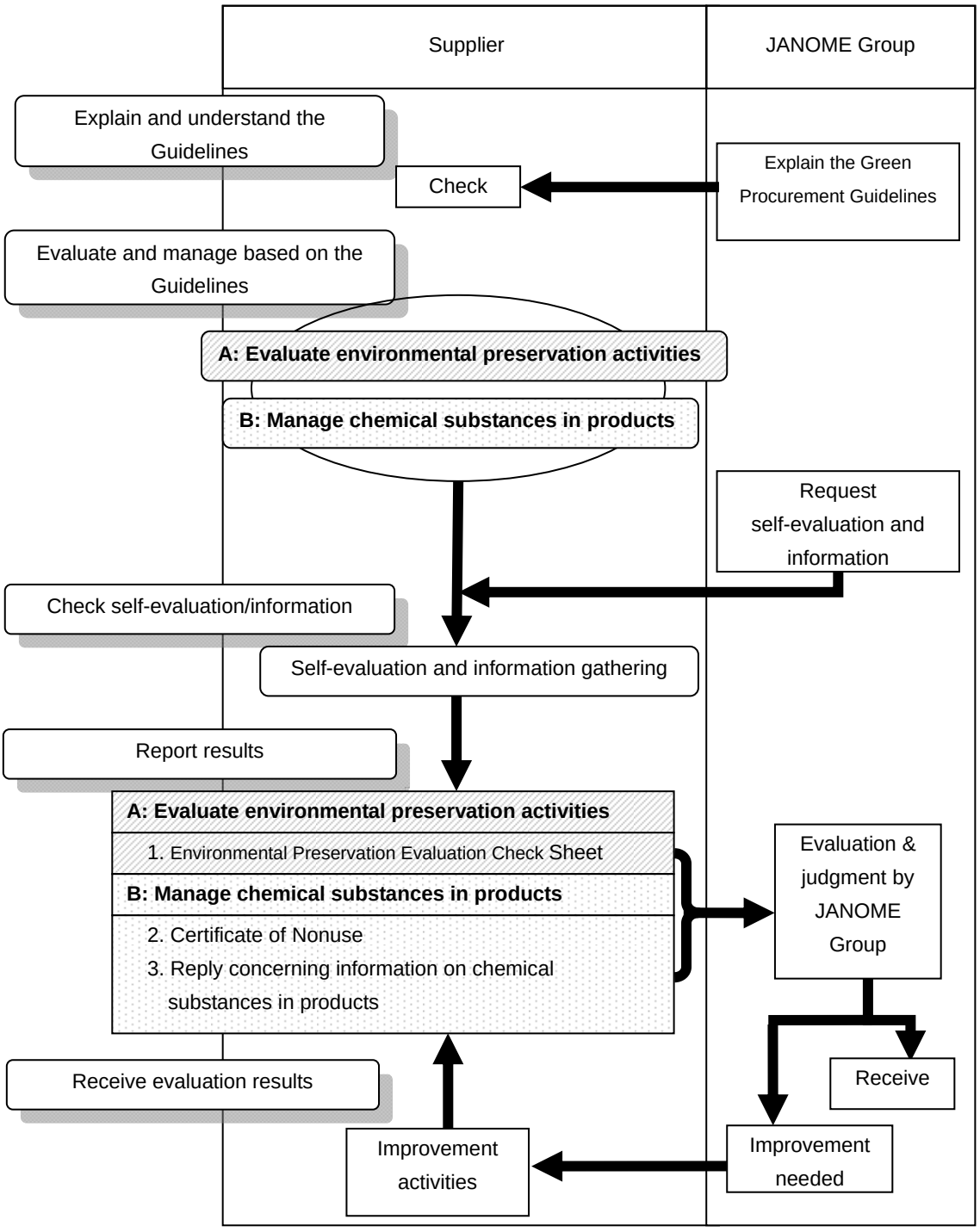
1. URL http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp
2. Trade Union Priority List by the European Trade Union Confederation: http://www.etuc.org/a/6023
3. SIN list by ChemSec: http://chemsec.org/list

5.3. Requests Concerning Supplier Survey Response

To promote green procurement, the Group asks suppliers to respond to the following surveys using the forms specified in the table below.

<table>
<tr><th>Reporting details</th><th colspan="2">Submission form</th></tr>
<tr><td>Evaluation of environmental preservation activities</td><td>Environmental Preservation Evaluation Check Sheet</td><td>Form 1</td></tr>
<tr><td rowspan="2">Management of information on chemical substances in products
① Prohibited substances (Table 1)
② Substances to be managed (Table 2)
③ Substances to be reduced (Table 3)</td><td>Certificate of Nonuse ((1) Prohibited substances)</td><td>Form 2</td></tr>
<tr><td>Reply concerning information on chemical substances in products (submission of content information)</td><td>AIS/
JGP files</td></tr>
</table>

6. Operation Flow



7. History of Revisions

First edition: July 2011

8. Contact

Environmental Management Promotion Department
JANOME Sewing Machine Co., Ltd.

TEL：+81-42-661-2853　　FAX：+81-42-661-3175

(Form 1)

To: JANOME Sewing Machine Co., Ltd.

Environmental Preservation Evaluation Check Sheet

1. Environmental preservation management system

Reply…○ : Yes △ : Planned × : No ― : Not applicable

	Survey Item	Reply	Remarks
①	Certified under ISO14001		
②	An environmental management system is constructed under other third-party certification		
③	Corporate principles, policies, standards, goals, etc. are established pertaining to environmental preservation.		
④	Roles, responsibilities, and authorities related to environmental preservation are defined clearly.		
⑤	Compliance is obtained with laws, regulations, agreements, etc. related to environmental preservation.		
⑥	Audits are performed on environmental preservation activities.		
⑦	Efforts are made to raise environmental awareness by building environmental management systems, providing in-house training, and conducting PR activities.		
⑧	A system is established to properly check and report 4M* changes.*Man, Machine, Material, Method		
⑨	A system is established to prevent the spread of environmental impact in an emergency.		

2. Environmental preservation activities

Check the appropriate box. ☑

	Survey item	Yes	No
①	Recycling waste.	☐	☐
②	Reducing waste during manufacture.	☐	☐
③	Saving resources.	☐	☐
④	Promoting minimal energy use in manufacture and transport.	☐	☐
⑤	Reducing power consumption and standby power of products and considering the ease of assembly and sorting	☐	☐

Date issued: (mm/dd/yyyy)

Name of company:

Address:

Contact person

Department:

Print name :

Signature:

Phone:

JANOME Sewing Machine Co., Ltd. Receiving date (/ /): Control No.

(Form 2)

To: JANOME Sewing Machine Co., Ltd.

Certificate of Nonuse of Prohibited Substances

We hereby certify that our company's (name of product**) uses none of the prohibited substances specified in the JANOME Group Green Procurement Guidelines (Table 1).**

1. Name of concerned part/product : _____

2. Requirement document: JANOME Group Green Procurement Guidelines

3. Requirement: Table 1 Prohibited Substances

Date issued: **(mm/dd/yyyy)**

Name of company:

Address:

Contact person

Department:

Print name:

Signature:

Phone:

JANOME Sewing Machine Co., Ltd. Receiving date (/ /): Control No.

Table 1 Prohibited substances

JQPSSI Classification No.	Substance/ Category	Reportable Application(s)	Reporting level (Threshold Level)	Examples of Use
A05	Cadmium/cadmium compounds	All, except batteries	0.01% by weight (100 ppm) of homogeneous materials	Pigment, anticorrosion surface treatment, electric and electronic materials, optical material, stabilizer, plating, pigment for resin, fluorescent, electrode, solder, electric contact, contact point, zinc plating, stabilizer for PVC
		Batteries	0.0005% by weight (5 ppm) of battery	Batteries
A07	Chromium VI compounds	All	0.1% by weight (1000 ppm) of homogeneous materials	Pigment, paint, ink, catalyst, plating, anticorrosion surface treatment, dye, paint dryer, paints adhesion enhancement
A09	Lead/lead compounds	All, except as noted below	0.1% by weight (1000 ppm) of homogeneous materials	Rubber hardener, pigment, paint, lubricant, plastic stabilizer, materials for battery, freemachining alloy, freecutting steels, optical materials, X-ray shielding in CRT glass, electrical solder material, mechanical solder materials, curing agent, vulcanizing agent, ferroelectrics, resin stabilizer, plating, metal alloy, resin additive
		Consumer products designed or intended primarily for children 12 years of age or younger	0.03% by weight (300 ppm) of the children's product	Pigment, paint, stabilizer, colorant
		Paint and similar surface coatings of toys and other articles intended for use by children	0.009% by weight (90 ppm) of surface coating	Pigment, paint, stabilizer, colorant
		Cables/cords with thermoset or thermoplastic coatings	0.03% by weight (300 ppm) of surface coating	Cables/cords
		Batteries	0.004% by weight (40 ppm) of battery	Batteries
A10	Mercury/mercury compounds	All, except batteries	Intentionally added or 0.1% (1000 ppm) at homogeneous material	Fluorescent bulb, contact point material, pigment, anticorrosion, switches, antibacterial treatment
		Batteries	0.0001% by weight (1 ppm) of battery	Batteries
A11	Nickel	All, where prolonged skin contact is expected	Intentionally added	Stainless steel, plating; example application for prolonged skin contact is an ear bud (headphone), mobile phone
A17	Tributyl tin oxide (TBTO)	All	Intentionally added or 0.1% by weight (1000 ppm) of the product	Antiseptic, antifungal agent, paint, pigment, antistaining, refrigerant, foaming agent, extinguishant, solvent cleaner
A28	Tri-substiituted organostannic compounds	All	0.1% by weight (1000 ppm) of tin in a material	Stabilizer, antioxidant, antibacterial and antifungal agents, antifoulant, antiseptic, anti-fungal agent, paint, pigment, antistaining
A20	Diarsenic pentoxide	All	0.1% by weight (1000 ppm) of the product	Glass
A21	Diarsenic trioxide	All	0.1% by weight (1000 ppm) of the product	Glass
A22	Cobalt dichloride ($CoCl_2$)	All	0.1% by weight (1000 ppm) of the product	pneumatic panels to indicate water contamination
A23	Dibutyltin (DBT) compounds	All	0.1% by weight (1000 ppm) of tin in a material	Stabilizer for PVC, curing catalyst for silicone resin and urethane resin
A24	Dioctyltin (DOT) compounds	(a) textile and leather articles intended to come into contact with the skin, (b) childcare articles (c) twocomponent room temperature vulcanisation moulding kits (RTV-2 moulding kits)	0.1% by weight (1000 ppm) of tin in a material	Stabilizer for PVC, curing catalyst for silicone resin and urethane resin
A25	Lead chromate	All	0.1% by weight (1000 ppm) of the product	Colorant in plastics; Colorant in paint
A26	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	All	0.1% by weight (1000 ppm) of the product	Colorant in plastics; Colorant in red paint

JGPSSI Classification No.	Substance/ Category	Reportable Application(s)	Reporting level (Threshold Level)	Examples of Use
A27	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	All	0.1% by weight (1000 ppm) of the product	Colorant in plastics; Colorant in yellow paint
B02	Polybrominated biphenyls (PBBs)	All	0.1% by weight (1000 ppm) in homogeneous material	Flame retardant
B03	Polybrominated diphenylethers (PBDEs)	All	0.1% by weight (1000 ppm) in homogeneous material	Flame retardant
B11	Hexabromocyclododecane (HBCDD) and all major diastereoisomers	All	0.1% by weight (1000 ppm) of the product	Flame retardant mainly used for expanded polystyrene and some types of fiber
B05	Polychlorinated biphenyls (PCBs) and specific substitutes	All	Intentionally added	Insulation oil, lubricant oil, electrical insulation medium, solvent, electrolytic solution; plasticizers, fire retardants, coatings for electrical wire and cable, dielectric sealants
B15	Polychlorinated terphenyls (PCTs)	All	Intentionally added	Insulation oil, lubricant oil, electrical insulation medium, solvent, electrolytic solution; plasticizers, fire retardants, coatings for electrical wire and cable, dielectric sealants
B06	Polychlorinated naphthalenes (more than 3 chlorine atoms)	All	Intentionally added	Lubricant, paint, stabilizer (electric characteristic, flameresistant, waterresistant) insulator, flame retardant
B09	Shortchain chlorinated paraffins (C10 – C13)	All	0.1% by weight (1000 ppm) of the product	Plasticizer for PVC, flame retardant
B16	Tris (2-chloroethyl) phosphate (TCEP)	All	0.1% by weight (1000 ppm) of the product	Flame retardant
B12	Perchlorates	All	0.0000006% by weight (0.006 ppm) of the product	Coin cell batteries
B13	Perfluorooctane sulfonate (PFOS)	All	Intentionally added	Antistatic agent for films and plastics
B10	Fluorinated greenhouse gases (PFC, SF6, HFC)	All	Intentionally added	Refrigerants, blowing agents, extinguishing agents, cleaning agents, insulating media, caustic gas
C01	Asbestos	All	Intentionally added	Insulator, filler, pigment, paint, talc, adiabatic material
C02	Azocolourants and azodyes which form certain aromatic amines	Textiles and leather	0.003% by weight (30 ppm) of the finished textile/leather product	Pigment, dyes, colorants
C04	Ozone depleting substances	All	Intentionally added	Refrigerant, foaming agent, extinguishant, solvent cleaner
C06	Radioactive substances	All	Intentionally added	Optical properties (thorium), measuring devices, gauges, detector
C07	Formaldehyde	Composite wood (plywood, particle board, MDF) products or components	Intentionally added	Stereo cabinets, kiosk enclosures
		Textiles	0.0075% by weight (75 ppm) of textile product	Textiles
C08	Phenol,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)	All	Intentionally added	Adhesives, paints, printing inks, plastics, inked ribbons, putty, caulking or sealing fillers
C09	Selected Phthalates Group 1 (BBP, DBP, DEHP)	Children's toy or child care article	0.1% by weight (1000 ppm) in plasticized material	Plasticizer, dye, pigment, paint, ink, adhesive, lubricant
C10	Selected Phthalates Group 2 (DIDP, DINP, DNOP)	Children's toy or child care article that can be placed in a child's mouth	0.1% by weight (1000 ppm) in plasticized material	Plasticizer, dye, pigment, paint, ink, adhesive, lubricant
C11	Dimethyl fumarate	All	0.00001% by weight (0.1 ppm) in a material	Biocide, mold treatment of electronic leather seats, including recliners, massage chairs
C12	Bis (2-ethylhexyl) phthalate (DEHP)	All	0.1% by weight (1000 ppm) of the product	Plasticizer, dye, pigment, paint, ink, adhesive, lubricant
C13	Dibutyl phthalate (DBP)	All	0.1% by weight (1000 ppm) of the product	Plasticizer, dye, pigment, paint, ink, adhesive, lubricant
C14	Benzyl butyl phthalate (BBP)	All	0.1% by weight (1000 ppm) of the product	Plasticizer, dye, pigment, paint, ink, adhesive, lubricant
C15	Diisobutyl phthalate (DIBP)	All	0.1% by weight (1000 ppm) of the product	Plasticizer, dye, pigment, paint, ink, adhesive, lubricant
C16	Refractory Ceramic Fibres, Aluminosilicate	All	0.1% by weight (1000 ppm) of the product	Insulation in high-temp test equipment
C17	Refractory Ceramic Fibres, Zirconia Aluminosilicate	All	0.1% by weight (1000 ppm) of the product	Insulation in high-temp test equipment

JGPSSI Classification No.	Substance/ Category	Reportable Application(s)	Reporting level (Threshold Level)	Examples of Use
C18	Boric acid	All	0.1% by weight (1000 ppm) of the product	Wood veneers/pressed wooden panels As flame retardant in wood, cotton and other plant derived material
C19	Disodium tetraborate, anhydrous	All	0.1% by weight (1000 ppm) of the product	Wood veneers/pressed wooden panels
C20	Tetraboron disodium heptaoxide, hydrate	All	0.1% by weight (1000 ppm) of the product	Wood veneers/pressed wooden panels

Table 1 Prohibited substances (details)

Note: New in this table means of adding for JIG-101Ed 3.0 and JIG-101 Ed 3.1 as a new subsutance.

JGPSSI Classification No.	Substance Group	JGPSSI Substance No.	Substance name	Metal Conversion Factor	CAS No.
A05	Cadmium/cadmium	A05001	Cadmium	1.000	7440-43-9
		A05002	Cadmium oxide	0.875	1306-19-0
		A05003	Cadmium sulfide	0.778	1306-23-6
		A05004	Cadmium chloride	0.613	10108-64-2
		A05005	Cadmium sulfate	0.539	10124-36-4
		A05990～9	Other cadmium compounds	–	–
A07	Chromium VI compounds	A07002	Chromium (VI) oxide	0.520	1333-82-0
		A07007	Barium chromate	0.205	10294-40-3
		A07003	Calcium chromate	0.333	13765-19-0
		A07002	Chromium trioxide	0.520	1333-82-0
		A07004	Lead (Ⅱ) chromate	0.161	7758-97-6
		A07011	Lead chromate molybdate sulphate red	**	12656-85-8
		A07012	C.I. Pigment Yellow 34	**	1344-37-2
		A07008	Sodium chromate	0.321	7775-11-3
		A07001	Sodium dichromate	0.397	10588-01-9
		A07009	Strontium chromate	0.255	7789-06-2
		A07005	Potassium dichromate	0.353	7778-50-9
		A07006	Potassium chromate	0.268	7789-00-6
		A07010	Zinc chromate	0.287	13530-65-9
		A07990～9	Other hexavalent chromium compounds	–	–
A09	Lead/lead compounds	A09001	Lead	1.000	7439-92-1
		A09009	Lead(II) sulfate	0.683	7446-14-2
		A09002	Lead(II) carbonate	0.775	598-63-0
		A09011	Lead(II) chromate	0.641	7758-97-6
		A09020	Lead chromate molybdate sulphate red	**	12656-85-8
		A09008	Lead hydroxidcarbonate	0.801	1319-46-6
		A09017	Lead acetate	0.637	301-04-2
		A09018	Lead (II) acetate, trihydrate	0.546	6080-56-4
		A09010	Lead phosphate	0.766	7446-27-7
		A09019	Lead selenide	0.724	12069-00-0
		A09003	Lead (IV) oxide	0.866	1309-60-0
		A09004	Lead (II,IV) oxide	0.907	1314-41-6
		A09005	Lead (II) sulfide	0.866	1314-87-0
		A09006	Lead (II) oxide	0.928	1317-36-8
		A09007	Lead(II) carbonate basic	0.801	1319-46-6
		A09008	Lead hydroxidcarbonate	0.801	1344-36-1
		A09010	Lead(II) phosphate	0.766	7446-27-7
		A09021	C.I. Pigment Yellow 34	**	1344-37-2
		A09012	Lead(II) titanate	0.686	12060-00-3
		A09013	Lead sulfate,sulphuric acid, lead salt	1.000	15739-80-7
		A09014	Lead sulphate,tribasic	0.850	12202-17-4
		A09015	Lead stearate	0.268	1072-35-1
		A09990～9	Other lead compounds	–	–
A10	Mercury/mercury compounds	A10001	Mercury	1.000	7439-97-6
		A10004	Mercuric chloride	–	33631-63-9
		A10002	Mercury (II) chloride	0.739	7487-94-7
		A10005	Mercuric sulfate	0.676	7783-35-9
		A10006	Mercuric nitrate	0.618	10045-94-0
		A10003	Mercury (II) oxide	0.926	21908-53-2
		A10007	Mercuric sulfide	0.862	1344-48-5
		A10990～9	Other mercury compounds	–	–
A11	Nickel	A11004	–	1.000	7440-02-0
A17	Tributyl Tin Oxide (TBTO)	A17001	–	0.398	56-35-9
A28	Tri-substiituted organostannic compounds	A18001	Triphenyltin=N, Ndimethyldithiocarbamate	0.252	1803-12-9
		A18002	Triphenyltinfluoride	0.322	379-52-2
		A18003	Triphenyltinacetate	0.290	900-95-8
		A18004	Triphenyltinchloride	0.308	639-58-7
		A18005	Triphenyltinhydroxide	0.323	76-87-9
		A18006	Triphenyltin fattyacid ((9-11) salt)	0.234 0.234 0.228 0.222	18380-71-7 18380-72-8 47672-31-1 94850-90-5
		A18007	Triphenyltinchloroacetate	0.268	7094-94-2
		A18008	Tributyltinmethacrylate	0.316	2155-70-6
		A18009	Bis(tributyltin)fumalate	0.342	6454-35-9
		A18010	Tributyltinfluoride	0.384	1983-10-4
		A18011	Bis(tributyltin)2,3-dibromosuccinate	0.278	31732-71-5
		A18012	Tributyltinacetate	0.340	56-36-0
		A18013	Tributyltinlaurate	0.243	3090-36-6

JGPSSI Classification No.	Substance Group	JGPSSI Substance No.	Substance name	Metal Conversion Factor	CAS No.
A28	Tri-substiituted organostannic compounds (cont'd)	A18014	Bis(tributyltin)phthalate	0.319	4782-29-0
		A18015	Coplymer of alkyl(c=8) acrylate,methyl methacrylate and tributyltin methacrylate	0.180	67772-01-4
		A18016	Tributyltinsulfamate	0.307	6517-25-5
		A18017	Bis(tributyltin)maleate	0.341	14275-57-1
		A18018	Tributyltinchloride	0.365	1461-22-9 7342-38-3
		A18019	Tributyltin cyclopentane carbonate=mixture		85409-17-2
		A18020	Tributyltin-1, 2,3,4,4a,4b,5,6,10,10a-decahydro-7-isoplopyl-1,4a-dimethyl-1-phenanthrencarboxylatemix	**	26239-64-5
		A18990～9	Other tri-substituted organostannic compounds	-	-
A20	Diarsenic Pentoxid	A02003	-	*	1303-28-2
A21	Diarsenic Trioxide	A02004	-	*	1327-53-3
A22	Cobalt dichloride ($CoCl_2$)	A22001	-	*	7646-79-9
A23	Dibutyltin (DBT) compounds	A23001	Dibutyltin oxide	0.477	818-08-6
		A23002	Dibutyltin diacetate	0.338	1067-33-0
		A23003	Dibutyltin dilaurate	0.188	77-58-7
		A23004	Dibutyltin maleate	0.342	1978-04-6
		A23990～9	Other dibutyltin compounds	-	-
A24	Dioctyltin (DOT) compounds	A24001	Dioctyl Tin Oxide	0.329	870-08-6
		A24002	Dioctyltin dilaurate	0.160	3648-18-8
		A24990～9	Other Dioctyltin compounds	-	-
A25	Lead chromate	A09011	-	*	7758-97-6
A26	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	A09020	-	*	12656-85-8
A27	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	A09021	-	*	1344-37-2
B02	Polybrominated Biphenyls (PBBs)	B02001	Polybrominated Biphenyls	-	59536-65-1
		B02002	Dibromobiphenyl	-	92-86-4
		B02003	2-Bromobiphenyl	-	2052-07-5
		B02004	3-Bromobiphenyl	-	2113-57-7
		B02005	4-Bromobiphenyl	-	92-66-0
		B02006	Tribromobiphenyl	-	59080-34-1
		B02007	Tetrabromobiphenyl	-	40088-45-7
		B02008	Pentabrphenyl	-	56307-79-0
		B02009	Hexabromobiphenyl	-	59080-40-9
		B02010	hexabromo-1,1-biphenyl	-	36355-01-8
		B02011	Firemaster FF-1	-	67774-32-7
		B02012	Heptabromobiphenyl	-	35194-78-6
		B02013	Octabromobiphenyl	-	61288-13-9
		B02014	Nonabiphenyl	-	27753-52-2
		B02015	Decabromobiphenyl	-	13654-09-6
B03	Polybrominated Diphenyl ethers (PBDEs)	B03001	Bromodiphenyl ether	-	101-55-3
		B03002	Dibromodiphenyl ethers	-	2050-47-7
		B03003	Tribromodiphenyl ether	-	49690-94-0
		B03004	Tetrabromodiphenyl ethers	-	40088-47-9
		B03005	Pentabrlmodidphenyl ether (note:Commercially available PeBDPO is a complex reaction mixtute containing a variety of brominated disphenyloxides.)	-	32534-81-9 (CAS numver used for commercial grades of PeBDPO)
		B03006	Hexabromodiphenyl ether	-	36483-60-0
		B03007	Heptabromodiphenyl ether	-	68928-80-3
		B03008	Octabromodiphenyl ether	-	32536-52-0
		B03009	Nonabromodiphenyl ether	-	63936-56-1
		B03010	Decabromodiphenyl ether	-	1163-19-5
B11	Hexabromocyclododecane (HBCDD) and all major diastereoisomers	B08031	Hexabromocyclododecane (HBCDD)	-	25637-99-4, 3194-55-6
		B11001	alpha-hexabromocyclododecane	-	134237-50-6
		B11002	beta-hexabromocyclododecane	-	134237-51-7
		B11003	gamma-hexabromocyclododecane	-	134237-52-8
B05	Polychlorinated Biphenyls (PCBs) and specific substitutes	B05001	Polychlorinated Biphenyls (all isomers and congeners)	-	1336-36-3
		B05008	Monomethyl-tetrachloro-diphenyl methane (Ugilec 141)	-	76253-60-6
		B05009	Monomethyl-dichloro-diphenyl methane (Ugilec 121, Ugilec 21)	-	81161-70-8
		B05010	Monomethyl-dibromo-diphenyl methane (DBBT)	-	99688-47-8
B15	Polychlorinated Terphenyls (PCTs)	B05002	Polychlorinated Terphenyls (all isomers and congeners)	-	61788-33-8
B06	Polychlorinated Naphthalenes (more than 3 chlorine atoms)	B06001	Polychlorinated Naphthalenes	-	70776-03-3
		B06997～9	Other polychlorinated Naphthalenes	-	-

JGPSSI Classification No.	Substance Group	JGPSSI Substance No.	Substance name	Metal Conversion Factor	CAS No.
B09	Shortchain Chlorinated Paraffins (C10 - C13)	B09001	Alkanes, C10-13, chloro	-	85535-84-8
		B09002	Alkanes, C10-12, chloro	-	108171-26-2
		B09003	Alkanes, C12-13, chloro	-	71011-12-6
		B09004	Alkanes, chloro	-	61788-76-9
		B09005	Chlorinated polyethylene	-	64754-90-1
		B09997～9	Other Short Chain ChlorinatedParaffins	-	-
B16	Tris(2-chloroethyl) phosphate (TCEP)	B16001	-	-	115-96-8
B12	Perchlorates	B12001	Lithium perchlorate	-	7791-03-9
		B12997～9	Other perchlorate compounds	-	-
B13	Perfluorooctane sulfonate (PFOS)	-	Perfluoroctane Sulfonates (PFOS) $C_8F_{17}SO_2X$, where X = OR, NR or other derivative	-	-
B10	Fluorinated greenhouse gases (PFC, SF6, HFC)	B10001	Tetrafluoromethane (Carbon tetrafluoride, PFC-14)	-	75-73-0
		B10002	Hexafluoroethane (PFC-116)	-	76-16-4
		B10003	Octafluoropropane (PFC-218)	-	76-19-7
		B10004	Decafluorobutane (PFC-31-10)	-	355-25-9
		B10005	Dodecafluoropentane (PFC-41-12)	-	678-26-2
		B10006	Tetradecafluorohexane (PFC-51-14)	-	355-42-0
		B10007	Octafluorocyclobutane (PFC-c318)	-	115-25-3
		B10008	Sulfur Hexafluoride (SF6)	-	2551-62-4
		B10009	Trifluoromethane - (HFC-23)	-	75-46-7
		B10010	Difluoromethane - (HFC-32)	-	1975-10-5
		B10011	Methyl fluoride - (HFC-41)	-	593-53-3
		B10012	2H,3H-Decafluoropentane - (HFC-43-10mee)	-	138495-42-8
		B10013	Pentafluoroethane (HFC-125)	-	354-33-6
		B10014	1,1,2,2-Tetrafluoroethane - (HFC-134)	-	359-35-3
		B10015	1,1,1,2-Tetrafluoroethane - (HFC-134a)	-	811-97-2
		B10016	1,1-Difluoroethane - (HFC-152a)	-	75-37-6
		B10017	1,1,2-Trifluoroethane-(HFC-143)	-	430-66-0
		B10018	1,1,1-Trifluoroethane - (HFC-143a)	-	420-46-2
		B10019	2H-Heptafluoropropane- (HFC-227ea)	-	431-89-0
		B10020	1,1,1,2,2,3-hexafluoro-propane (HFC-236cb)	-	677-56-5
		B10021	1,1,1,2,3,3-Hexafluoropropane - (HFC-236ea)	-	431-63-0
		B10022	1,1,1,3,3,3-Hexafluoropropane - (HFC-236fa)	-	690-39-1
		B10023	1,1,2,2,3-Pentafluoropropane - (HFC-245ca)	-	679-86-7
		B10024	1,1,1,3,3-Pentafluoropropane - (HFC-245fa)	-	460-73-1
		B10025	1,1,1,3,3-Pentafluorobutane - (HFC-365mfc)	-	406-58-6
C01	Asbestos	C01007	Asbestos	-	1332-21-4
		C01001	Actinolite	-	77536-66-4
		C01002	Amosite (Grunerite)	-	12172-73-5
		C01003	Anthophyllite	-	77536-67-5
		C01004	Chrysotile	-	12001-29-5
		C01005	Crocidolite	-	12001-28-4
		C01006	Tremolite	-	77536-68-6
C02	Azocolourants and azodyes which form certain aromatic amines	-	biphenyl-4-ylamine	-	92-67-1
		-	Benzidine	-	92-87-5
		-	4-chloro-o-toluidine	-	95-69-2
		-	2-naphthylamine	-	91-59-8
		-	o-aminoazotoluene	-	97-56-3
		-	5-nitro-o-toluidine	-	99-55-8
		-	4-chloroaniline	-	106-47-8
		-	4-methoxy-m-phenylenediamine	-	615-05-4
		-	4,4'-methylenedianiline	-	101-77-9
		-	3,3'-dichlorobenzidine	-	91-94-1
		-	3,3'-dimethoxybenzidine	-	119-90-4
		-	3,3'-dimethylbenzidine	-	119-93-7
		-	4,4'-methylenedi-o-toluidine	-	838-88-0
		-	6-methoxy-m-toluidine	-	120-71-8
		-	4,4'-methylene-bis(2-chloroaniline)	-	101-14-4
		-	4,4'-oxydianiline	-	101-80-4
		-	4,4'-thiodianiline	-	139-65-1
		-	o-toluidine	-	95-53-4
		-	4-methyl-m-phenylenediamine	-	95-80-7
		-	2,4,5-trimethylaniline	-	137-17-7
		-	o-anisidine	-	90-04-0
		-	4-amino azobenzene	-	60-09-3
C04	Ozone Depleting Substances	C04097	Trichlorofluoromethane (CFC-11)	-	75-69-4
			Dichlorodifluoromethane (CFC-12)	-	75-71-8
		C04099	Chlorotrifluoromethane (CFC-13)	-	75-72-9
			Pentachlorofluoroethane (CFC-111)	-	354-56-3
			Tetrachlorodifluoroethane (CFC-112)	-	76-12-0

JGPSSI Classification No.	Substance Group	JGPSSI Substance No.	Substance name	Metal Conversion Factor	CAS No.
C04	Ozone Depleting Substances (cont'd)	C04099	1,1,2,2-Tetrachloro-1,2-difluoroethane (CFC-112)	-	76-12-0
			1,1,1,2-Tetrachloro-2,2-difluoroethane (CFC-112a)	-	1976-11-9
		C04097	Trichlorotrifluoroethane (CFC-113)	-	76-13-1
			1,1,2-Trichloro-1,2,2 trifluoroethane (CFC-113)	-	76-13-1
			1,1,1-Trichloro-2,2,2 trifluoroethane (CFC-113a)	-	354-58-5
			Dichlorotetrafluoroethane (CFC-114)	-	76-14-2
			Monochloropentafluoroethane (CFC-115)	-	76-15-3
		C04099	Heptachlorofluoropropane (CFC-211)	-	422-78-6
				-	135401-87-5
			1,1,1,2,2,3,3-Heptachloro-3-fluoropropane (CFC-211aa)	-	422-78-6
			1,1,1,2,3,3,3-Heptachloro-2-fluoropropane (CFC-211ba)	-	422-81-1
			Hexachlorodifluoropropane (CFC-212)	-	3182-26-1
			Pentachlorotrifluoropropane (CFC-213)	-	2354-06-5
				-	134237-31-3
			Tetrachlorotetrafluoropropane (CFC-214)	-	29255-31-0
			1,2,2,3-Tetrachloro-1,1,3,3-tetrafluoropropane (CFC-214aa)	-	2268-46-4
			1,1,1,3-Tetrachloro-2,2,3,3-tetrafluoropropane (CFC-214cb)	-	-
			Trichloropentafluoropropane (CFC-215)	-	1599-41-3
			1,2,2-Trichloropentafluoropropane (CFC-215aa)	-	1599-41-3
			1,2,3-Trichloropentafluoropropane (CFC-215ba)	-	76-17-5
			1,1,2-Trichloropentafluoropropane (CFC-215bb)	-	-
			1,1,3-Trichloropentafluoropropane (CFC-215ca)	-	-
			1,1,1-Trichloropentafluoropropane (CFC-215cb)	-	4259-43-2
			Dichlorohexafluoropropane (CFC-216)	-	661-97-2
			Chloroheptafluoropropane (CFC-217)	-	422-86-6
		C04102	Bromochloromethane (Halon-1011)	-	74-97-5
		-	Dibromodifluoromethane (Halon-1202)	-	75-61-6
		C04098	Bromochlorodifluoromethane (Halon-1211)	-	353-59-3
			Bromotrifluoromethane (Halon-1301)	-	75-63-8
			Dibromotetrafluoroethane (Halon-2402)	-	124-73-2
		C04100	Tetrachloromethane(carbon tetrachloride)	-	56-23-5
		C04101	1,1,1-Trichloroethane (methylchloroform)	-	71-55-6
		C04103	Bromomethane (methyl bromide)	-	74-83-9
			Bromoethane (ethyl bromide)	-	74-96-4
		-	1-Bromopropane (n-propyl bromide)	-	106-94-5
		-	Trifluoroiodomethane (trifluoromethyl iodide)	-	2314-97-8
		-	Chloromethane (methyl chloride)	-	74-87-5
		C04104	Dibromofluoromethane (HBFC-21B2)	-	1868-53-7
			Bromodifluoromethane (HBFC-22 B1)	-	1511-62-2
			Bromofluoromethane (HBFC-31 B1)	-	373-52-4
			Tetrabromofluoroethane (HBFC-121 B4)	-	306-80-9
			Tribromodifluoroethane (HBFC-122B3)	-	-
			Dibromotrifluoroethane (HBFC-123B2)	-	354-04-1
			Bromotetrafluoroethane (HBFC-124B1)	-	124-72-1
			Tribromofluoroethane (HBFC-131B3)	-	-
			Dibromodifluoroethane (HBFC-132B2)	-	75-82-1
			Bromotrifluoroethane (HBFC-133B1)	-	421-06-7
			Dibromofluoroethane (HBFC-141 B2)	-	358-97-4
			Bromodifluoroethane (HBFC-142 B1)	-	420-47-3
			Bromofluoroethane (HBFC-151 B1)	-	762-49-2
			Hexabromofluoropropane (HBFC-221 B6)	-	-
			Pentabromodifluoropropane (HBFC-222 B5)	-	-
			Tetrabromotrifluoropropane (HBFC-223 B4)	-	-
			Tribromotetrafluoropropane (HBFC-224 B3)	-	-
			Dibromopentafluoropropane (HBFC-225 B2)	-	431-78-7
			Bromohexafluoropropane (HBFC-226 B1)	-	2252-78-0
			Pentabromofluoropropane (HBFC-231 B5)	-	-
			Tetrabromodifluoropropane (HBFC-232 B4)	-	-
			Tribromotrifluoropropane (HBFC-233 B3)	-	-
			Dibromotetrafluoropropane (HBFC-234 B2)	-	-
			Bromopentafluoropropane (HBFC-235 B1)	-	460-88-8
			Tetrabromofluoropropane (HBFC-241 B4)	-	-
			Tribromodifluoropropane (HBFC-242B3)	-	70192-80-2
			Dibromotrifluoropropane (HBFC-243 B2)	-	431-21-0
			Bromotetrafluoropropane (HBFC-244 B1)	-	679-84-5
			Tribromofluoropropane (HBFC-25 B3)	-	75372-14-4
			Dibromodifluoropropane (HBFC-252 B2)	-	460-25-3
			Bromotrifluoropropane (HBFC-253B1)	-	421-46-5
			Dibromofluoropropane (HBFC-261B2)	-	51584-26-0

JGPSSI Classification No.	Substance Group	JGPSSI Substance No.	Substance name	Metal Conversion Factor	CAS No.
C04	Ozone Depleting Substances (cont'd)	C04104	Bromodifluoropropane (HBFC-262B1)	–	–
			Bromofluoropropane (HBFC-271 B1)	–	1871-72-3
		C04105	Dichlorofluoromethane (HCFC-21)	–	75-43-4
			Chlorodifluoromethane (HCFC-22)	–	75-45-6
			Chlorofluoromethane (HCFC-31)	–	593-70-4
			Tetrachlorofluoroethane (HCFC-121)	–	134237-32-4
			1,1,2,2-Tetrachloro-1-fluoroethane (HCFC-121)	–	354-14-3
			1,1,1,2-Tetrachloro-2-fluoroethane (HCFC-121a)	–	354-11-0
			Trichlorodifluoroethane (HCFC-122)		41834-16-6
			1,2,2-Trichloro-1,1-difluoroethane (HCFC-122)	–	354-21-2
			1,1,2-Trichloro-1,2-difluoroethane (HCFC-122a)	–	354-15-4
			1,1,1-Trichloro-2,2-difluoroethane (HCFC-122b)	–	354-12-1
			Dichlorotrifluoroethane (HCFC-123)	–	34077-87-7
			1,1-Dichloro-2,2,2-trifluoroethane (HCFC-123)	–	306-83-2
			1,2-Dichloro-1,1,2-trifluoroethane (HCFC-123a)	– –	354-23-4 90454-18-5
			1,1-Dichloro-1,2,2-trifluoroethane (HCFC-123b)	–	812-04-4
			Chlorotetrafluoroethane (HCFC-124)	–	63938-10-3
			2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124)	–	2837-89-0
			1-chloro-1,1,2,2-tetrafluoroethane (HCFC-124a)	–	354-25-6
			Trichlorofluoroethane (HCFC-131)	– –	27154-33-2; 134237-34-6
			1,1,2-Trichloro-2-fluoroethane(HCFC-131)	–	359-28-4
			1,1,2-Trichloro-1-fluoroethane(HCFC131a)	–	811-95-0
			1,1,1-Trichloro-2-fluoroethane(HCFC-131b)	–	2366-36-1
			Dichlorodifluoroethane (HCFC-132)	–	25915-78-0
			1,2-Dichloro-1,2-difluoroethane (HCFC-132)	–	431-06-1
			1,1-Dichloro-2,2-difluoroethane (HCFC-132a)	–	471-43-2
			1,2-Dichloro-1,1-difluoroethane (HCFC-132b)	–	1649-08-7
			1,1-Dichloro-1,2-difluoroethane (HFCF-132c)	–	1842-05-3
			Chlorotrifluoroethane (HCFC-133)	– –	1330-45-6 431-7-2
			1-Chloro-1,2,2-trifluoroethane (HCFC-133)	–	1330-45-6
			2-Chloro-1,1,1-trifluoroethane(HCFC-133a)	–	75-88-7
			1-Chloro-1,1,2-trifluoroethane (HCFC-133b)	–	421-04-5
			Dichlorofluoroethane (HCFC-141)	– –	1717-00-6; (25167-88-8)
			1,2-Dichloro-1-fluoroethane (HCFC-141)	–	430-57-9
			1,1-Dichloro-2-fluoroethane (HCFC-141a)	–	430-53-5
			1,1-Dichloro-1-fluoroethane (HCFC-141b)	–	1717-00-6
			Chlorodifluoroethane (HCFC-142)	–	25497-29-4
			2-Chloro-1,1-Difluoroethane (HCFC-142)	–	338-65-8
			1-Chloro-1,1-difluoroethane (HCFC-142b)	–	75-68-3
			1-Chloro-1,2-difluoroethane (HCFC-142a)	–	338-64-7
			Chlorofluoroethane (HCFC-151)	–	110587-14-9
			1-Chloro-2-fluoroethane (HCFC-151)	–	762-50-5
			1-Chloro-1-fluoroethane (HCFC-151a)	–	1615-75-4
			Hexachlorofluoropropane (HCFC-221)	– –	134237-35-7 29470-94-8
			1,1,1,2,2,3-Hexachloro-3-fluoropropane (HCFC-221ab)	–	422-26-4
			Pentachlorodifluoropropane (HCFC-222)	–	134237-36-8
			1,1,1,3,3-pentachloro-2,2-difluoropropane (HCFC-222ca))	–	422-49-1
			1,2,2,3,3-pentachloro-1,1-difluoropropane (HCFC-222aa)	–	422-30-0
			Tetrachlorotrifluoropropane (HCFC-223)	–	134237-37-9
			1,1,3,3-Tetrachloro-1,2,2-trifluoropropane (HCFC-223ca)	–	422-52-6
			1,1,1,3-Tetrachloro-2,2,3-trifluoropropane (HCFC-223cb)	–	422-50-4
			Trichlorotetrafluoropropane (HCFC-224)	–	134237-38-0
			1,3,3-Trichloro-1,1,2,2-tetrafluoropropane (HCFC-224ca)	–	422-54-8
			1,1,3-Trichloro-1,2,2,3-tetrafluoropropane (HCFC-224cb)	–	422-53-7
			1,1,1-Trichloro-2,2,3,3-tetrafluoropropane (HCFC-224cc)	–	422-51-7
			Dichloropentafluoropropane (HCFC-225)	–	127564-92-5
			2,2-Dichloro-1,1,1,3,3-pentafluoropropane (HCFC-225aa)	–	128903-21-9
			2,3-Dichloro-1,1,1,2,3-pentafluoropropane (HCFC-225ba)	–	422-48-0
			1,2-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC-225bb)	–	422-44-6
			3,3-Dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)	–	422-56-0
			1,3-Dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)	–	507-55-1
			1,1-Dichloro-1,2,2,3,3-pentafluoropropane (HCFC-225cc)	–	13474-88-9
			1,2-Dichloro-1,1,3,3,3-pentafluoropropane (HCFC-225da)	–	431-86-7
			1,3-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC-225ea)	–	136013-79-1
			1,1-Dichloro-1,2,3,3,3-pentafluoropropane (HCFC-225eb)	–	111512-56-2
			Chlorohexafluoropropane (HCFC-226)	–	134308-72-8
			2-Chloro-1,1,1,3,3,3-hexafluoropropane (HCFC-226da)	–	431-87-8

JGPSSI Classification No.	Substance Group	JGPSSI Substance No.	Substance name	Metal Conversion Factor	CAS No.
C04	Ozone Depleting Substances (cont'd)	C04105	Pentachlorofluoropropane (HCFC-231)	–	134190-48-0
			1,1,1,2,3-pentachloro-2-fluoropropane (HCFC-231bb)	–	421-94-3
			Tetrachlorodifluoropropane (HCFC-232)	–	134237-39-1
			1,1,1,3-Tetrachloro-3,3-difluoropropane (HCFC-232fc)	–	460-89-9
			Trichlorotrifluoropropane (HCFC-233)	–	134237-40-4
			1,1,1-Trichloro-3,3,3-trifluoropropane (HCFC-233fb)	–	7125-83-9
			Dichlorotetrafluoropropane (HCFC-234)	–	127564-83-4
			1,2-Dichloro-1,2,3,3-tetrafluoropropane (HCFC-234db)	–	425-94-5
			Chloropentafluoropropane (HCFC-235)	–	134237-41-5
			1-Chloro-1,1,3,3,3-pentafluoropropane (HCFC-235fa)	–	460-92-4
			Tetrachlorofluoropropane (HCFC-241)	–	134190-49-1
			1,1,2,3-Tetrachloro-1-fluoropropane(HCFC-241db)	–	666-27-3
			Trichlorodifluoropropane (HCFC-242)	–	134237-42-6
			1,3,3,Trichloro-1,1-difluoropropane (HCFC-242fa)	–	460-63-9
			Dichlorotrifluoropropane (HCFC-243)	–	134237-43-7
			1,1-Dichloro-1,2,2-trifluoropropane (HCFC-243cc)	–	7125-99-7
			2,3-Dichloro-1,1,1-trifluoropropane (HCFC-243db)	–	338-75-0
			3,3-Dichloro-1,1,1-trifluoropropane (HCFC-243fa)	–	460-69-5
			Chlorotetrafluoropropane (HCFC-244)	–	134190-50-4
			3-Chloro-1,1,2,2-tetrafluoropropane (HCFC-244ca)	–	679-85-6
			1-Chloro-1,1,2,2-tetrafluoropropane (HCFC-244cc)	–	421-75-0
			Trichlorofluoropropane (HCFC-251)	–	134190-51-5
			1,1,3-Trichloro-1-fluoropropane (HCFC-251fb)	–	818-99-5
			1,1,2-Trichloro-1-fluoropropane (HCFC-251dc)	–	421-41-0
			Dichlorodifluoropropane (HCFC-252)	–	134190-52-6
			1,3-Dicloro-1,1-difluoropropane (HCFC-252fb)	–	819-00-1
			Chlorotrifluoropropane (HCFC-253)	–	134237-44-8
			3-Chloro-1,1,1-trifluoropropane (HCFC-253fb)	–	460-35-5
			Dichlorofluoropropane (HCFC-261)	–	134237-45-9
			1,1-Dichloro-1-fluoropropane (HCFC-261fc)	–	7799-56-6
			1,2-Dichloro-2-fluoro-propane (HCFC-261ba)	–	420-97-3
			Chlorodifluoropropane (HCFC-262)	–	134190-53-7
			1-Chloro-2,2-difluoropropane (HCFC-262ca)	–	420-99-5
			2-Chloro-1,3-difluoropropane (HCFC-262da)	–	102738-79-4
			1-Chloro-1,1-difluoropropane (HCFC-262fc)	–	421-02-03
			Chlorofluoropropane (HCFC-271)	–	134190-54-8
			2-Chloro-2-fluoropropane (HCFC-271ba)	–	420-44-0
			1-Chloro-1-fluoropropane (HCFC-271fb)	–	430-55-7
C06	Radioactive substances	C06001	Uranium-238	–	7440-61-1
		C06003	Radon	–	10043-92-2
		C06004	Americium-241	–	14596-10-2
		C06005	Thorium-232	–	7440-29-1
		C06006	Cesium-137	–	10045-97-3
		C06007	Strontium-90	–	10098-97-2
		C069997～9	Other radioactive substances	–	–
C07	Formaldehyde	C07001	–	–	50-00-0
C08	Phenol,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethyl ethyl)	C08001	–	–	3846-71-7
C09	Selected Phthalates Group 1 (BBP, DBP, DEHP)	C05009	Butyl benzyl phthalate (BBP)	–	85-68-7
		C05001	Dibutylphthalate (DBP)	–	84-74-2
		C05002	Bis (2-ethylhexyl) phthalate (DEHP)	–	117-81-7
C10	Selected Phthalates Group 2 (DIDP, DINP, DNOP)	C05008	1,2-Benzenedicarboxylic acid diisodecyl ester (DIDP)	–	26761-40-0 68515-49-1
		C05007	Diisononyl phthalate (DINP)	–	28553-12-0 68515-48-0
		C05010	Di-n-octyl phthalate (DNOP)	–	117-84-0
C11	Dimethyl fumarate	C11001	–	–	624-49-7
C12	Bis (2-ethylhexyl) phthalate (DEHP)	C05002	–	–	117-81-7
C13	Dibutylphthalate (DBP)	C05001	–	–	84-74-2
C14	Benzyl butyl phthalate (BBP)	C05009	–	–	85-68-7
C15	Diisobutyl phthalate (DIBP)	C15001	–	–	84-69-5

JGPSSI Classification No.	Substance Group	JGPSSI Substance No.	Substance name	Metal Conversion Factor	CAS No.
C16	Refractory Ceramic Fibres,	C16001	are fibres covered by index number 650-017-00-8 in Annex VI, part 3, table 3.2 of Regulation (EC) No1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, and fulfill the two following a) Al_2O_3 and SiO_2 are present within the following concentration ranges: ・Al_2O_3: 43.5 – 47 % w/w, and SiO_2: 49.5 – 53.5 % w/w, or ・Al_2O_3: 45.5 – 50.5 % w/w, and SiO_2: 48.5 – 54 % w/w, b) fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometres (μm)	–	–
C17	Refractory Ceramic Fibres,	C17001	are fibres covered by index number 650-017-00-8 in Annex VI, part 3, table 3.2 of Regulation (EC) No1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, and fulfill the two following a) Al2O3, SiO2 and ZrO2 are present within the following concentration ranges: ・Al_2O_3: 35 – 36 % w/w, and ・SiO_2: 47.5 – 50 % w/w, and ・ZrO_2: 15 – 17 % w/w, b) fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometres (μm)	–	–
C18	Boric acid	C18001	–	–	10043-35-3
			–	–	11113-50-1
C19	Disodium tetraborate, anhydrous	C19001	Disodium tetraborate decahydrate	–	1303-96-4
			Disodium tetraborate, anhydrous	–	1330-43-4
			Disodium tetraborate, pentahydrate	–	12179-04-3
C20	Tetraboron disodium heptaoxide, hydrate	C20001	–	–	12267-73-1

Table 2 Substances to be managed

JGPSSI Classification No.	Substance/ Category	Reportable Application(s)	Reporting level (Threshold Level)	Examples of Use
A19	Beryllium oxide (BeO)	All	0.1% by weight (1000 ppm) of the product	Ceramics
B08	Brominated flame retardants (other than PBBs,PBDEs, or HBCDD)	Plastic parts >25grams other than in printed wiring board assemblies	0.1% by weight (1000 ppm) of plastic material	flame retardant for housing, connectors, package molding sealing
		Printed wiring board laminate	0.09% total bromine content by weight (900 ppm) in the laminate	Printed wiring board laminate
B07	Polyvinyl chloride (PVC)	All	0.1% by weight (1000 ppm) of the product	Insulator, chemical resistance, transparency, sheath material

Table 2 Substances to be managed (details)

Note: New in this table means of adding for JIG-101Ed 3.0 and JIG-101 Ed 3.1 as a new subsutance.

JGPSSI Classificatio No.	Substance Group	JGPSSI Substance No.	Substance name (英語名)	Metal Conversion Factor	CAS No.
A19	Beryllium Oxide (BeO)	A03002	-	-	1304-56-9
B08	Brominated flame retardants (other than PBBs, PBDEs, or HBCDD)	B08001	Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(14)[Aliphatic/alicyclic brominated compounds]	-	-
		B08002	Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(15)[Aliphatic/alicyclic brominated compounds in combination with antimony compounds]	-	-
		B08003	Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(16)[Aromatic brominated compounds excluding brominated diphenyl ether and biphenyls)]	-	-
		B08004	Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(17)[Aromatic brominated compounds excluding brominated diphenyl ether and biphenyls) in combination with antimony compounds]	-	-
		B08005	Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(22)[Aliphatic/alicyclic chlorinated and brominated compounds]	-	-
		B08006	Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(42)[Brominated organic phosphorus compounds]	-	-
		B08007	Poly(2,6-dibromo-phenylene oxide)	-	69882-11-7
		B08008	Tetra-decabromo-diphenoxybenzene	-	58965-66-5
		B08009	1,2-Bis(2,4,6-tribromo-phenoxy)ethane	-	37853-59-1
		B08010	3,5,3',5'-Tetrabromo-bisphenol A	-	79-94-7
		B08011	TBBA, unspecified	-	30496-13-0
		B08012	TBBA-epichlorhydrin oligomer	-	40039-93-8
		B08013	TBBA-TBBA-diglycidyl-ether oligomer	-	70682-74-5
		B08014	TBBA carbonate oligomer	-	28906-13-0
		B08015	TBBA carbonate oligomer, phenoxy end capped	-	94344-64-2
		B08016	TBBA carbonate oligomer, 2,4,6-tribromo-phenol	-	71342-77-3
		B08017	TBBA-bisphenol A-phosgene polymer	-	32844-27-2
		B08018	Brominated epoxy resin end-capped with tribromophenol	-	139638-58-7
		B08019	Brominated epoxy resin end-capped with tribromophenol	-	135229-48-0
		B08020	TBBA-(2,3-dibromo-propyl-ether)	-	21850-44-2
		B08021	TBBA bis-(2-hydroxy-ethyl-ether)	-	4162-45-2
		B08022	TBBA-bis-(allyl-ether)	-	25327-89-3
		B08023	TBBA-dimethyl-ether	-	37853-61-5
		B08024	Tetrabromo-bisphenol S	-	39635-79-5
		B08025	TBBS-bis-(2,3-dibromo-propyl-ether)	-	42757-55-1
		B08026	2,4-Dibromo-phenol	-	615-58-7
		B08027	2,4,6-tribromo-phenol	-	118-79-6
		B08028	Pentabromo-phenol	-	608-71-9
		B08029	2,4,6-Tribromo-phenyl-alltl-ether	-	3278-89-5
		B08030	Tribromo-phenyl-allyl-ether, unspecified	-	26762-91-4

JGPSSI Classificatio No.	Substance Group	JGPSSI Substance No.	Substance name (英語名)	Metal Conversion Factor	CAS No.
B08	Brominated flame retardants (other than PBBs, PBDEs, or HBCDD) (cont'd)	B08036	Bis(methyl)tetrabromo-phtalate	–	55481-60-2
		B08037	Bis(2-ethlhexyl)tetrabromo-phtalate	–	26040-51-7
		B08038	2-Hydroxy-propyl-2-(2-hydroxyethoxy)-ethyl-TBP	–	20566-35-2
		B08039	TBPA, glycol-and propylene-oxide esters	–	75790-69-1
		B08040	N,N' -Ethylene -bis-(tetrabromophthalimide)	–	32588-76-4
		B08041	Ethylene-bis(5,6-dibromonorbornane -2,3-dicarboximide)	–	52907-07-0
		B08042	2,3-Dibromo-2-butene-1,4-diol	–	3234-02-4
		B08043	Dibromo-neopentyl-glycol	–	3296-90-0
		B08044	Dibromo-propanol	–	96-13-9
		B08045	Tribromo-neopentyl-alcohol	–	36483-57-5
		B08046	Poly tribromo-styrene	–	57137-10-7
		B08047	Tribromo-styrene	–	61368-34-1
		B08048	Dibromo-styrene grafted PP	–	171091-06-8
		B08049	Poly-dibromo-styrene	–	31780-26-4
		B08050	Bromo-/Chloro-paraffins	–	68955-41-9
		B08051	Bromo-/Chloro-alpha-olefin	–	82600-56-4
		B08052	Vinylbromide	–	593-60-2
		B08053	Tris-(2,3-dibromo-propyl)-isocyanurate	–	52434-90-9
		B08054	Tris(2,4-Dibromo-phenyl) phosphate	–	49690-63-3
		B08055	Tris(tribromo-neopentyl) phosphate	–	19186-97-1
		B08056	Chlorinated and brominated phosphate esther	–	125997-20-8
		B08057	Pentabromo-toluene	–	87-83-2
		B08058	Pentabromo-benzyl bromide	–	38521-51-6
		B08059	1,3-Butadiene homopolymer,brominated	–	68441-46-3
		B08060	Pentabromo-benzyl-acrylate, monomer	–	59447-55-1
		B08061	Pentabromo-benzyl-acrylate, polymer	–	59447-57-3
		B08062	Decabromo-diphenyl-ethane	–	84852-53-9
		B08063	Tribromo-bisphenyl-maleinimide	–	59789-51-4
		B08032	Tetrabromo-chyclo-octane	–	31454-48-5
		B08033	1,2-Dibromo-4-(1,2 dibromo-methyl)-cyclo-hexane	–	3322-93-8
		B08034	TBPA Na salt	–	25357-79-3
		B08035	Tetrabromo phthalic anhydride	–	632-79-1
		B08065	Octabromo-1,1,3-trimethyl-1-phenylindane (FR-1808)	–	155613-93-7
		B08997～9	Other Brominated Flame Retardants	–	–
B07	Polyvinyl chloride (PVC)	B07001	Polyvinyl chloride (PVC)	–	9002-86-2
		B07997～9	Other Polyvinyl chlorides	–	–

Table 2 Substances to be managed (Candidate List of Substances of Very High Concern for authorisation)

No.	Substance Name	CAS No.	Examples of Use
1	4,4'- Diaminodiphenylmethane (MDA)	101-77-9	The main end use applications for polyurethane products include infrastructure and building products such as insulation panels, coatings and adhesives plus binders for forest products. Polyurethanes are key components for refrigerators and freezers, automobiles, furniture and shoes. The main applications for polyurethane are as follows, adhesives/sealants, appliances, automotive applications, binders, building construction, coatings, elastomers, footwear, furniture/bedding, Hardener in epoxy resins, Hardener in adhesives, Intermediate in the manufacture of high performance polymers, Processing to 4-4' methylenebis(cyclohexaneamine) (H12MDA)
2	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	Detergents, fabric softeners, fabric conditioners, cleaning agents, air fresheners and other household products and in cosmetic products such as soaps, shampoos and perfumes
3	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	Used as a flame retardant in rubber (in high density conveyor belts used in the mining industry, in the production of technical products such as gaskets and hoses). The function of SCCPs in sealants is to act as a plasticiser in order to modify the hardness and elasticity of the final sealant. They can also be used as a flame retardant in the sealant. SCCPs are used as plasticisers for paints. The main types of paints are those based on chlorinated rubber and vinyl copolymers. The relevant use descriptors for this application are chemical formulation and/or re-packing, coatings and paints, fillers, putties, thinners.
4	Anthracene	120-12-7	Used as intermediate for the synthesis of anthraquinone, a laboratory chemical , for the production of pharmaceuticals and for pyrotechnic preparations and articles.
5	Benzyl butyl phthalate (BBP)	85-68-7	Used as a plasticiser in polymer products, mainly PVC for flooring. Flooring (both calendered and spread coated flooring); Wall covering; Coating of leather and textiles (upholstery, shoe uppers, wallets/bags, luggage); Packaging films; Sealants (polysulphide based, polyurethane based or acrylic-based) for insulating double glazing and other applications; Paints for car care and construction (acrylic cquers and other); Inks for paper and board; Adhesives (polyvinyl acetate and other); Miscellaneous (hard PVC, nitrile rubber and other).
6	Bis (2-ethylhexyl)phthalate (DEHP)	117-81-7	DEHP is widely used as a plasticiser in polymer products, mainly PVC. Flooring (PVC flooring (with PVC surface); Carpets with PVC back-coating; Cork with PVC top-coating or back-coating), Wall covering, Roofing, Film/sheet and oated products (Curtains, blinds, table linen, etc.; Packaging; Tape and self-adhesive foils; Office supplies (ring binders, files, slip cases, etc.); Toys (swimming pools, rubber beach toy, beach balls, etc.); Medical bag/sheet devices; Bottom sheets for hospitals), Wires and cables, Hoses and profiles (Garden hoses and tubes; Hoses and tubes in industry; Profiles of windows and electrical products; Medical tubing), Coated fabric (Upholstery and car seats (synthetic leather); Luggage; Rainwear; Tarpaulins; Water beds), Moulded product (Footwear; Adult toys; (DEHP is not permitted in toys for children)), Car undercoating; Non-polymer applications, Adhesives, Lacquers and paints, Printing inks (see comment below), Sealants (glass insulation, construction), Ceramics.
7	Bis (tributyltin) oxide (TBTO)	56-35-9	Used as biocidal application.
8	Diarsenic pentaoxide	1303-28-2	Used in chromated copper arsenate (CCA) wood preservative, Glass processing.
9	Diarsenic trioxide	1327-53-3	Used of lead alloys (especially in lead-acid batteries), glass (and, to a lesser extent, enamel) production and as a source of high-purity arsenic for use in the electronics industry. Diarsenic trioxide is also used as an intermediate for other arsenic compounds.
10	Dibutyl phthalate (DBP)	84-74-2	Gelling aid in combination with other plasticisers in plastics. Rubbers. In the adhesives industry to plasticise PVA emulsions. Epoxy resins. In the coatings industry as a primary plasticiser-solvent for nitrocellulose lacquers. Solvent for many oil-soluble dyes, insecticides, peroxides and other organic compounds. Antifoam agent and as a fibre lubricant in textile manufacturing. Printing inks, polishing agents, corrosion inhibitor materials. Use in pp catalytic systems.

No.	Substance Name	CAS No.	Examples of Use
11	Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified: α-hexabromocyclododecane β-hexabromocyclododecane γ-hexabromocyclododecane	3194-55-6 25637-99-4 134237-50-6 134247-51-7 134237-52-8	HBCDD is solely used as an additive flame retardant. HBCDD is used in four principal product types: Masterbatch, Expanded Polystyrene (EPS), Extruded Polystyrene (XPS), High Impact Polystyrene (HIPS), Polymer dispersion for textiles.
12	Lead hydrogen arsenate	7784-40-9	Used as inorganic insecticide.
13	Sodium dichromate	7789-12-0 10588-01-9	Used as an intermediate in the synthesis of other chromium (Ⅵ) compounds or chromium (Ⅲ) compounds. Manufacture of leather tanning salts (chromium (Ⅲ) sulphates), Chromium (Ⅲ,Ⅵ) pigments, Production of chromium metal. Substance not used as an intermediate. Metal finishing (Electroplating, Conversion coatings (anodising; chromating; coil coating; vitreous enamelling), Brightening), Aerospace (Passivation; Sealing anodized layers on aluminium parts; Underlay for plating; Electroplating; Electroless nickel plating), Automotive, Metal packaging (Tinplate passivation; Elemental chromium in the process; Marking of tin-plate with chromium (III) oxide (CrO3); Electrolytic chromium/chromium oxide coated steel (ECCS)), Wood preservation products, Mordant in wool dyeing, Manufacture of montan wax, Anticorrosion agent, Manufacture of vitamin K, Industrial cleaning aerospace industry and other cleaning use, Other miscellaneous uses.
14	Triethyl arsenate	15606-95-8	Copiers (small amounts of high-purity arsenic are used in arsenicselenium alloys for photoconductors.). Doping of silicon.
15	2,4-Dinitrotoluene	121-14-2	2,4-dinitrotoluene is used in the production of toluene diisocyanate, which is used for the manufacture of flexible polyurethane foams. The substance is also used as gelatinizing-plasticizing agent for the manufacture of explosives.
16	Aluminosilicate Refractory Ceramic Fibres	-	Refractory ceramic fibres are used for high-temperature insulation, almost exclusively in industrial applications (insulation of industrial furnaces and equipment, equipment for the automotive and aircraft/ aerospace industry) and in fire protection (buildings and industrial process equipment).
17	Anthracene oil	90640-80-5	The substances are mainly used in the manufacture of other substances such as anthracene and carbon black. They may also be used as reducing agents in blast furnaces, as components in bunker fuel, for impregnating, sealing and corrosion protection.
18	Anthracene oil, anthracene-low	90640-82-7	
19	Anthracene oil, anthracene paste	90640-81-6	
20	Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	
21	Anthracene oil, anthracene paste,distn. lights	91995-17-4	
22	Diisobutyl phthalate	84-69-5	Diisobutyl phthalate is used as plasticiser for nitrocellulose, cellulose ether, polyacrylate and polyacetate dispersions, and as a gelling aid in combination with other plasticisers, which are widely used for plastics, lacquers, adhesives, explosive material and nail
23	Lead(Ⅱ) chromate	7758-97-6	Lead chromate is used for manufacturing pigments and dyes, and as a pigment or coating agent in industrial and maritime paint products or varnishes. Further potential uses may be associated with the formulation of detergents and bleaches, photosensitive materials, the manufacture of pyrotechnic powder or the embalming / restoring of art products.
24	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	12656-85-8	Lead chromate molybdate sulphate red (C.I. Pigment Red 104) is used as a colouring, painting and coating agent in sectors such as the rubber, plastic and paints, coatings and varnishes industries. Applications comprise the production of agricultural equipment, vehicles and aircraft as well as road and airstrip painting.
25	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2	Lead sulfochromate yellow (C.I. Pigment Yellow 34) is used as a colouring, painting and coating agent in sectors such as the rubber, plastic and paints, coatings and varnishes industries. Applications comprise the production of agricultural equipment, vehicles and aircraft as well as road and airstrip painting. The substance is further used for camouflage or ammunition marking in the defence area.
26	Pitch, coal tar, high temp.	65996-93-2	Pitch, coal tar, high temp. is mainly used in the production of electrodes for industrial applications. Smaller volumes are dedicated to specific uses such as heavy duty corrosion protection, special purpose paving, manufacture of other substances and the production of clay targets.

No.	Substance Name	CAS No.	Examples of Use
27	Tris (2-chloroethyl) phosphate	115-96-8	Tris(2-chloroethyl)phosphate is mainly used as an additive plasticiser and viscosity regulator with flame-retarding properties for acrylic resins, polyurethane, polyvinyl chloride and other polymers. Other fields of application are adhesives, coatings, flame resistant paints and varnishes. The main industrial branches to use TCEP are the furniture, the textile and the building industry.
28	Zirconia Aluminosilicate Refractory Ceramic Fibres	-	Refractory ceramic fibres are used for high-temperature insulation, almost exclusively in industrial applications (insulation of industrial furnaces and equipment, equipment for the automotive and aircraft/aerospace industry) and in fire protection (buildings and industrial process equipment).
29	Acrylamide	79-06-1	Acrylamide is almost exclusively used for the synthesis of polyacrylamides, which are used in various applications, in particular in waste water treatment and paper processing. Minor uses of acrylamide comprise the preparation of polyacrylamide gels for research purposes and as a grouting agent in civil engineering.
30	Trichloroethylene	79-01-6	Trichlororethylene is mainly used as intermediate in the manufacture of chlorinated and fluorinated organic compounds. Other uses are for cleaning and degreasing of metal parts or as solvent in adhesives.
31	Boric acid	10043-35-3 11113-50-1	Boric acid is widely used on account of its consistency-influencing, flame-retarding, antiseptic and preservative properties. It is a component of detergents and cleaners, adhesives, toys, industrial fluids, brake fluids, glass, ceramics, flame retardants, paints, disinfectants, cosmetics, food additives, fertilisers, insecticides and other products.
32	Disodium tetraborate, anhydrous	1303-96-4 1330-43-4 12179-04-3	Disodium tetraborate and tetraboron disodium heptaoxide form the same compounds in aqueous solutions. Uses include a multitude of applications, e.g. in detergents and cleaners, in glass and glass fibres, ceramics, industrial fluids, metallurgy, adhesives, flame retardants, personal care products, biocides, fertilisers.
33	Tetraboron disodium heptaoxide, hydrate	12267-73-1	
34	Potassium dichromate	7778-50-9	Potassium dichromate is used for chrome metal manufacturing and as corrosion inhibitor for treatment and coating of metals. It is further used as textile mordant, as laboratory analytical agent, for cleaning of laboratory glassware, in the manufacture of other reagents and as oxidising agent in photolithography.
35	Ammonium dichromate	7789-09-5	Ammonium dichromate is mainly used as an oxidising agent. Other known uses are in the manufacture of photosensitive screens and as mordant in the manufacture of textiles. Minor uses seem to comprise metal treatment and laboratory analytical agent.
36	Potassium chromate	7789-00-6	Potassium chromate is used as a corrosion inhibitor for treatment and coating of metals, for manufacture of reagents, chemicals and textiles, as a colouring agent in ceramics, in the manufacture of pigments/inks and in the laboratory as analytical agent.
37	Sodium chromate	7775-11-3	Sodium chromate is mainly used as an intermediate in the manufacture of other chromium compounds as well as a laboratory analytical agent, but this use is limited. Other potential uses are mentioned in the literature but whether they occur in the EU is not
38	Cobalt(II) sulphate	10124-43-3	Cobalt(II) sulphate is mainly used in the manufacture of other chemicals including pigments and possibly catalysts, driers. Further applications comprise surface treatments (such as electroplating), corrosion prevention, decolourisation (in glass, pottery), in batteries, animal food supplements and soil fertilisers.
39	Cobalt(II) dinitrate	10141-05-6	Cobalt(II) dinitrate is mainly used in the manufacture of other chemicals including catalysts. Further applications may include surface treatment and in batteries.
40	Cobalt(II) carbonate	513-79-1	Cobalt(II) carbonate is mainly used in the manufacture of catalysts. Minor uses may include as a feed additive, in the manufacture of other chemicals including pigments, and as an adhesive in ground coat frit.
41	Cobalt(II) diacetate	71-48-7	Cobalt(II) diacetate is mainly used in the manufacture of catalysts or as a catalyst. Minor uses may include the manufacture of other chemicals including pigments, surface treatments, in alloys, dyes, rubber adhesion, and as a feed additive.
42	2-Methoxyethanol	109-86-4	2-methoxyethanol is mainly used as a chemical intermediate. Further minor uses are as a solvent or a laboratory chemical
43	2-Ethoxyethanol	110-80-5	2-ethoxyethanol is mainly used as a chemical intermediate. Further minor uses are as a solvent or a laboratory chemical.

No.	Substance Name	CAS No.	Examples of Use
44	Chromium trioxide	1333-82-0	Chromium trioxide is mainly used in metal finishing, such as electro- plating (e.g. hard chrome and decorative plating), conversion coatings and brightening. It is also used as a fixing agent in waterborne wood preservatives. Minor uses are e.g. in the manufacture of pigments and paints, in catalyst and detergent manufacture, and as an oxidising agent.
45	Dichromic acid, Oligomers of chromic acid and dichromic acid, Chromic acid	7738-94-5 13530-68-2 -	Acids generated from chromium trioxide and their oligomers are mainly used in metal finishing, such as electroplating (e.g. hard chrome and decorative plating), conversion coatings and brightening. It is also used as a fixing agent in waterborne wood preservatives. Minor uses are e.g. in the manufacture of pigments and paints, in catalyst and detergent manufacture, and as an oxidising agent.
46	2-ethoxyethyl acetate	111-15-9	No registration for 2-ethoxyethylacetate has been submitted to ECHA. Hence the substance seems not to be manufactured in or imported to the EU in quantities above 1 t/y. Main uses in the past were as solvent in coatings and in the chemical industry, but also as intermediate in the manufacture of cyanoacrylate adhesives.
47	strontium chromate	7789-06-02	Strontium chromate is mainly used as corrosion inhibitor in coating mixtures used in the aeronautic/aerospace sector, in the coil coating sector of steel and aluminium and in the vehicle coating sector.
48	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	68515-42-4	No registration for DHNUP has been submitted to ECHA. Hence the substance seems not to be manufactured in or imported to the EU in quantities above 1 t/y. Main uses in the past were as plasticiser in PVC, foam, adhesives and coatings.
49	Hydrazine	302-01-2 7803-57-8	Hydrazine is mainly used as intermediate in the manufacture of hydrazine derivatives, as a monomer in polymerisations, as a corrosion inhibitor in water treatment and for metal reduction and refining of chemicals. It is also used as a propellant for aerospace vehicles and as fuel in military (emergency) power units.
50	1-methyl-2-pyrrolidone	872-50-4	1-methyl-2-pyrrolidone is mainly used as solvent in coatings, cleaning products, for electronic equipment manufacture, as well as in semiconductor industry, petrochemical processing, pharmaceuticals and agrochemicals.
51	1,2,3-trichloropropane	96-18-4	1,2,3-trichloropropane is mainly used as intermediate in the manufacture of chlorinated solvents and agricultural products. It is also used as monomer. In the past 1,2,3-trichloropropane was used as solvent, paint and varnish remover and as degreasing agent.
52	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	71888-89-6	No registration for DIHP has been submitted to ECHA. Hence the substance seems not to be manufactured in or imported to the EU in quantities above 1 t/y. Main uses in the past were as plasticiser in PVC and in sealants, coatings and potentially printing inks.
53	Cobalt dichloride	7646-79-9	Cobalt dichloride is mainly used as intermediate in the manufacture of other cobalt compounds, in tyre adhesion additives, organic textile dyes, and drying agents for paints. Furthermore it is used in surface treatment processes, as water treatment / corrosion inhibition chemical, as colourant or for discolouring in the production of inorganic pigments & frits, glass, and ceramic ware, in varistors and magnets, as well as in humidity indicators.

Table 3 Substances to be Reduced

No.	Substance name	CAS No.	No.	Substance name	CAS No.
1	1,2-dichlorobenzene	95-50-1	52	A mixture of: 1,3,5-tris(3-aminomethylphenyl)-1,3,5-(1H,3H,5H)-triazine-2,4,6-trione; a mixture of oligomers of 3,5-bis(3-amino methylphenyl)-1-poly[3,5-bis(3-aminomethyl phenyl)-2,4,6-trioxo-1,3,5-(1H,3H,5H)-triazin-1-yl]-1,3,5-(1H,3H,5H))-triazine-2,4,6-t	-
2	4-tertbutylphenol	98-54-4			
3	4-tertoctylphenolethoxylate	9002-93-1 9036-19-5 68987-90-6			
4	Aniline	62-53-3			
5	Antimony	1309-64-4	53	A mixture of: 4-[[bis-(4-fluorophenyl) methyl silyl]methyl]-4H-1,2,4-triazole; 1-[[bis-(4-fluorophenyl) methylsilyl]methyl]-1H-1,2,4-triazole	-
6	Benzophenone	119-61-9			
7	Bisphenol	80-05-7			
8	Galaxolide	1222-05-5			
9	Hexane	110-54-3	54	A mixture of: disodium 4-(3-ethoxycarbonyl-4-(5-(3-ethoxycarbonyl-5-hydroxy-1-(4-sulfonatophenyl)pyrazol-4-yl)penta-2,4-dienylidene)-4,5-dihydro-5- oxopyrazol-1-yl)benzenesulfonate	-
10	Naphthalene	91-20-3			
11	Nonylphenol	25154-52-3 104-40-5 90481-04-2			
12	Nonylphenol etoxilate	9016-45-9 26027-38-3 68412-54-4 127087-87-0 37205-87-1	55	A mixture of: N-[3-hydroxy-2-(2-methyl acryloylaminomethoxy)propoxymethyl]-2-methylacrylamide; N-[2,3-bis-(2-methyl acryloylaminomethoxy)propoxymethyl]-2-methylacrylamide; methacrylamide; 2-methyl-N-(2-methylacryloylaminomethoxy methyl)-acrylamide	-
13	Octamethylcyclotetrasiloxane	556-67-2			
14	OctylPhenol	140-66-9 27193-28-8	56	hydrazine bis(3-carboxy-4-hydroxybenzen sulfonate)	148434-03-1
15	Paraffin waxes and Hydrocarbon waxes, chloro	63449-39-8	57	hydrazine-trinitromethane	4682-01-3
16	Perfluorooctane sulfonamide (PFOSA)	4151-50-2	58	α-chlorotoluene; benzyl chloride	100-44-7
17	PFOA	335-67-1	59	phenylhydrazine	100-63-0
18	Styrene	100-42-5	60	N,N,N',N'-tetramethyl-4,4'-methylendianiline	101-61-1
19	Tonalide	21145-77-7 1506-02-1	61	azobenzene	103-33-3
			62	1-chloro-2,3-epoxypropane; epichlorhydrin	106-89-8
20	Triclosan	3380-34-5	63	1,2-dibromoethane	106-93-4
21	3-benzylidene camphor	15087-24-8	64	1,3-butadiene; buta-1,3-diene	106-99-0
22	4-methylbenzylidene camphor	36861-47-9	65	1,2-dichloroethane; ethylene dichloride	107-06-2
23	4-nitrophenol	100-02-7	66	acrylonitrile	107-13-1
24	4,4'-dihydroxybenzophenone	611-99-4	67	chlormethyl methyl ether; chlorodimethyl ether	107-30-2
25	Benzophenone-1	131-56-6			
26	Benzophenone-2	131-55-5	68	(6-(4-hydroxy-3-(2-methoxyphenylazo)-2-sulfonato-7-naphthylamino)-1,3,5-triazin-2,4-diyl)bis[(amino-1-methylethyl)ammonium] formate	108225-03-2
27	Benzophenone-3	131-57-7			
28	Butylparaben	94-26-8			
29	Dicyclohexyl phthalate (DCHP)	84-61-7			
30	Diethyl phthalate (DEP)	84-66-2	69	furan	110-00-9
31	Dihexyl phthalate (DHP)	84-75-3	70	2-methoxyethyl acetate; methylglycol acetate	110-49-6
32	Ethylhexyl methoxycinnamate	5466-77-3	71	1,2-dimethoxyethane; ethylene glycol dimethyl ether; EGDME	110-71-4
33	Metam natrium	137-42-8			
34	Methyl tertiary butyl ether (MTBE)	1634-04-4	72	2-ethoxyethyl acetate; ethylglycol acetate	111-15-9
35	Pentachlorophenol	87-86-5	73	2,2'-(nitrosoimino)bisethanol	1116-54-7
36	Perchloroethylene	127-18-4	74	bis(2-methoxyethyl) ether	111-96-6
37	Propylparaben	94-13-3	75	1,3-propanesultone; 1,2-oxathiolane 2,2-dioxide	1120-71-4
38	Quadrosilan	33204-76-1			
39	Resorcinol	108-46-3	76	1,2-bis(2-methoxyethoxy)ethane; TEGDME; triethylene glycol dimethyl ether; triglyme	112-49-2
40	Tert-butylhydroxyanisole	25013-16-5			
41	Thiram	137-26-8	77	bis(2-methoxyethyl) phthalate	117-82-8
42	Zineb	12122-67-7	78	hexachlorobenzene	118-74-1
43	Dibutyltin	1002-53-5 683-18-1	79	tetrahydrofurfuryl (R)-2-[4-(6-chloro quinoxalin-2-yloxy)phenyloxy]propionate	119738-06-6
44	Perfluoroktansulfonsyra (PFOS)	1763-23-1	80	nickel dioxide	12035-36-8
45	1,2,3-trichlorobenzene	87-61-6	81	nickel subsulphide; trinickel disulphide	12035-72-2
46	1,2,4-trichlorobenzene	120-82-1	82	phenyl glycidyl ether; 2,3-epoxypropyl phenyl ether; 1,2-epoxy-3-phenoxypropane	122-60-1
47	Cyclododecane	294-62-2			
48	hexachlorobuta-1,3-diene	87-68-3	83	hydrazobenzene; 1,2-diphenylhydrazine	122-66-7
49	pentachlorobenzenethiol	133-49-3	84	N-methylformamide	123-39-7
50	(methylenebis(4,1-phenylenazo(1-(3-(dimethylamino)propyl)-1,2-dihydro-6-hydroxy-4-methyl-2-oxopyridine-5,3-diyl)))-1,1'-dipyridinium dichloride dihydrochloride	118658-99-4	85	erionite	12510-42-8
			86	chloroprene (stabilized); 2-chlorobuta-1,3-diene	126-99-8
			87	N,N-dimethylacetamide	127-19-5
51	2-[2-hydroxy-3-(2-chlorophenyl) carbamoyl-1-naphthylazo]-7-[2-hydroxy-3-3-methylphenyl) carbamoyl-1-naphthylazo]fluoren-9-one	-	88	di-n-pentyl phthalate	131-18-0
			89	nickel monoxide	1313-99-1
			90	dinickel trioxide	1314-06-3
			91	dimethylsulfamoylchloride	13360-57-1

No.	Substance name	CAS No.	No.	Substance name	CAS No.
92	tetracarbonylnickel; nickel tetracarbonyl	13463-39-3	135	disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate); C.I. Direct Red 28	573-58-0
93	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2			
94	2,2'-bioxirane; 1,2:3,4-diepoxybutane	1464-53-5	136	3-propanolide; 1,3-propiolactone	57-57-8
95	2-methoxypropanol	1589-47-5	137	2-nitronaphthalene	581-89-5
96	disodium{ 5-[(4'-((2,6-hydroxy-3-((2-hydroxy-5-sulphophenyl) azo) phenyl) azo) (1,1'-biphenyl)-4-yl) azo]salicylato(4-)} cuprate(2-); CI Direct Brown 95	16071-86-6	138	methyl-ONN-azoxymethyl acetate; methyl azoxy methyl acetate	592-62-1
			139	1,3,5-tris-[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione	59653-74-6
97	trisodium [4'-(8-acetylamino-3,6-disulfonato-2-naphthylazo)-4''-(6-benzoylamino-3-sulfonato-2-naphthylazo)-biphenyl-1,3',3'',1''''-tetraolato-O,O',O'',O''']copper(II)	164058-22-4	140	phenylhydrazinium chloride	59-88-1
			141	2,3-dinitrotoluene	602-01-7
			142	5-nitroacenaphthene	602-87-9
			143	diisopentylphthalate	605-50-5
98	nickel sulphide	16812-54-7	144	2,6-dinitrotoluene	606-20-2
99	benzo[e]pyrene	192-97-2	145	3,4-dinitrotoluene	610-39-9
100	disodium 4-amino-3-[[4'-[(2,4-diamino phenyl)azo][1,1'-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphtalene-2,7-disulphonate; C.I. Direct Black 38	1937-37-7	146	4,4'-bi-o-toluidine dihydrochloride	612-82-8
			147	3,3'-dichlorobenzidine dihydrochloride	612-83-9
				3,3'-dichlorobenzidine dihydrogen bis(sulphate)	64969-34-2
101	benzo[j]fluoranthene	205-82-3		3,3'-dichlorobenzidine sulphate	74332-73-3
102	benz[e]acephenanthrylene	205-99-2	148	tetrahydrothiopyran-3-carboxaldehyde	61571-06-0
103	benzo[k]fluoranthene	207-08-9	149	3,5-dinitrotoluene	618-85-9
104	salts of benzidine	21136-70-9 36341-27-2 531-85-1 531-86-2	150	2,5-dinitrotoluene	619-15-8
			151	nitrosodipropylamine	621-64-7
			152	methoxyacetic acid	625-45-6
			153	thioacetamide	62-55-5
105	2,4,5-trimethylaniline hydrochloride	21436-97-5	154	dimethylnitrosoamine; N-nitrosodimethylamine	62-75-9
106	chrysene	218-01-9	155	carbon monoxide	630-08-0
107	1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione; TGIC	2451-62-9	156	diethyl sulphate	64-67-5
			157	[3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl]diammonium bis(hydrogen sulphate)	64969-36-4
108	1,4,5,8-tetraaminoanthraquinone; C.I. Disperse Blue 1	2475-45-8	158	toluene-2,4-diammonium sulphate; 4-methyl-m-phenylenediamine sulfate	65321-67-7
109	dinitrotoluene	25321-14-6			
110	diaminotoluene, technical product; methyl-phenylenediamine	25376-45-8	159	cycloheximide	66-81-9
			160	hexamethylphosphoric triamide; hexamethylphosphoramide	680-31-9
111	tetrasodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis[5-amino-4-hydroxynaphthalene-2,7-disulphonate]; C.I.	2602-46-2	161	carbadox (INN); methyl3-(quinoxalin-2-yl methylene)carbazate1,4-dioxide; 2-(methoxy carbonylhydrazonomethyl) quinoxaline1,4-dioxide	6804-07-5
112	phenylhydrazine hydrochloride	27140-08-5			
113	4-chloro-o-toluidine hydrochloride	3165-93-3			
114	diazomethane	334-88-3	162	azafenidin	68049-83-2
115	6-(2-chloroethyl)-6-(2-methoxyethoxy)-2,5,7,10-tetraoxa-6-silaundecane; etacelasil	37894-46-5	163	4,4-isobutylethylidenediphenol	6807-17-6
			164	N,N-dimethylformamide; dimethyl formamide	68-12-2
116	2,4-diaminoanisole; 4-methoxy-m-phenylenediamine	39156-41-7	165	1-methyl-3-nitro-1-nitrosoguanidine	70-25-7
			166	2-methoxypropyl acetate	70657-70-4
	2,4-diaminoanisole sulphate	615-05-4	167	oxiranemethanol, 4-methylbenzene-sulfonate, (S)-	70987-78-9
117	4-amino-3-fluorophenol	399-95-1			
118	benzo[a]pyrene; benzo[def]chrysene	50-32-8	168	benzene	71-43-2
119	R-1-chloro-2,3-epoxypropane	51594-55-9	169	beryllium	7440-41-7
120	urethane (INN); ethyl carbamate	51-79-6	170	4,4'-bi-o-toluidine sulphate	74753-18-7
121	phenylhydrazinium sulphate (2:1)	52033-74-6	171	vinyl chloride; chloroethylene	75-01-4
122	α,α,α,4-tetrachlorotoluene; p-chlorobenzotrichloride	5216-25-1	172	formamide	75-12-7
			173	ethylene oxide;oxirane	75-21-8
123	dibenz[a,h]anthracene	53-70-3	174	2-bromopropane	75-26-3
124	1,2-dimethylhydrazine	540-73-8	175	2-methylaziridine; propyleneimine	75-55-8
125	isobutyl nitrite	542-56-3	176	propylene oxide; 1,2-epoxypropane; methyloxirane	75-56-9
126	bis (chloromethyl) ether; oxybis(chloromethane)	542-88-1			
			177	1,4-dichlorobut-2-ene	764-41-0
127	salts of 2-naphthylamine	553-00-4 612-52-2	178	potassium bromate	7758-01-2
			179	dimethyl sulphate	77-78-1
128	(S)-4-hydroxy-3-(3-oxo-1-phenylbutyl)-2-benzopyrone	5543-57-7	180	isoprene (stabilized); 2-methyl-1,3-butadiene	78-79-5
			181	N-methylacetamide	79-16-3
129	(R)-4-hydroxy-3-(3-oxo-1-phenylbutyl)-2-benzopyrone	5543-58-8	182	dimethylcarbamoyl chloride	79-44-7
			183	2-nitropropane	79-46-9
130	2,3-epoxypropan-1-ol; glycidol; oxiranemethanol	556-52-5	184	2-ethylhexyl[[[3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl]methyl]thio]acetate	80387-97-9
131	benz[a]anthracene	56-55-3	185	warfarin	81-81-2
132	4,4'-(4-iminocyclohexa-2,5-dienylidene methylene)dianiline hydrochloride; C.I. Basic Red 9	569-61-9	186	1,2-benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0
			187	6-hydroxy-1-(3-isopropoxypropyl)-4-methyl-2-oxo-5-[4-(phenylazo)phenylazo]-1,2-dihydro-3-pyridinecarbonitrile	85136-74-9
133	R-2,3-epoxy-1-propanol	57044-25-4			
134	N,N-dimethylhydrazine	57-14-7			

No.	Substance name	CAS No.
188	2-nitrotoluene	88-72-2
189	dinoseb; 6-sec-butyl-2,4-dinitrophenol	88-85-7
190	4,4'-bis(dimethylamino)benzophenone; Michler's ketone	90-94-8
191	2-nitroanisole	91-23-6
192	4-nitrobiphenyl	92-93-3
193	safrole; 5-allyl-1,3-benzodioxole	94-59-7
194	styrene oxide; (epoxyethyl)benzene; phenyloxirane	96-09-3
195	1,2-dibromo-3-chloropropane	96-12-8
196	1,3-dichloro-2-propanol	96-23-1
197	ethylene thiourea; imidazolidine-2-thione; 2-imidazoline-2-thiol	96-45-7
198	α,α,α-trichlorotoluene; benzotrichloride	98-07-7
199	O-hexyl-N-ethoxy carbonylthiocarbamate AERO 5460 PROMOTER	–
200	diethyl (2-(hydroxymethylcarbamoyl)ethyl) phosphonate, methyl ethyl (2-(hydroxymethylcarbamoyl)ethyl)phosphonate, mixture of: dimethyl (2-(hydroxymethylcarbamoyl)ethyl) phosphonate	–
201	cobalt lithium nickel oxide	–
202	nickel difluoride	10028-18-9
	nickel dibromide	13462-88-9
	nickel diiodide	13462-90-3
	nickel potassium fluorid	11132-10-8
203	nickel(II) selenite	10101-96-9
204	ethyl 1-(2,4-dichlorophenyl)-5-trichloro methyl-1,2,4-(1H)-triazol-3-carboxylate	103112-35-2
205	O-isobutyl-N-ethoxy carbonylthiocarbamate AERO 5415 PROMOTER	103122-66-3
206	(4-ethoxyphenyl) (3-(4-fluoro-3-phenoxyphenyl) propyl) dimethylsilane	105024-66-6
207	(AEEA), 2-(2-aminoethylamino)ethanol	111-41-1
208	dialuminium nickel tetraoxide	12004-35-2
	nickel titanium trioxide	12035-39-1
	nickel titanium oxide	12653-76-8
	nickel divanadium hexaoxide	52502-12-2
	cobalt dimolybdenum nickel octaoxide	68016-03-5
	nickel zirkonium trioxide	70692-93-2
	molybdenum nickel tetraoxide	14177-55-0
	nickel tungsten tetraoxide	14177-51-6
	olivine, nickel green	68515-84-4
	lithium nickel dioxide	12031-65-1
	molybdenum nickel oxide	12673-58-4
209	nickel boride (NiB)	12007-00-0
	dinickel boride	12007-01-1
	trinickel boride	12007-02-2
	nickel boride	12619-90-8
	dinickel silicide	12059-14-2
	nickel disilicide	12201-89-7
	dinickel phosphide	12035-64-2
	nickel boron phosphide	65229-23-4
210	nickel stannate, nickel tin trioxide	12035-38-0
211	nickel dihydroxide	12054-48-7
	nickel hydroxide	11113-74-9
212	nickel diarsenide	12068-61-0
	nickel arsenide	27016-75-7
213	trinickel tetrasulfide	12137-12-1
214	nickel telluride	12142-88-0
215	boric oxide, diboron trioxide	1303-86-2
216	nickel dinitrate	13138-45-9
	nitric acid, nickel salt	14216-75-2
217	nickel selenide	1314-05-2
218	3-amino-9-ethyl carbazole 9-ethylcarbazol-3-ylamine	132-32-1
219	nickel(II) arsenate, trinickel bis(arsenate)	13477-70-8
220	perboric acid ($H_3BO_2(O_2)$), monosodium salt trihydrate	13517-20-9
	perboric acid, sodium salt, tetrahydrate	37244-98-7
	perboric acid ($HBO(O_2)$), sodium salt, tetrahydrate	10486-00-7
221	nickel diperchlorate, perchloric acid, nickel(II) salt	13637-71-3
222	nickel dithiocyanate	13689-92-4
223	nickel bis(sulfamidate), nickel sulfamate	13770-89-3
224	nickel dipotassium bis(sulfate)	13842-46-1
	diammonium nickel bis(sulfate)	15699-18-0
225	nickel hydrogen phosphate	14332-34-4
	nickel bis(dihydrogen phosphate)	18718-11-1
	trinickel bis(orthophosphate)	10381-36-9
	dinickel diphosphate	14448-18-1
	nickel bis(phosphinate)	14507-36-9
	nickel phosphinate	36026-88-7
	phosphoric acid, calcium nickel salt	17169-61-8
	diphosphoric acid, nickel(II) salt	19372-20-4
226	nickel bis(tetrafluoroborate)	14708-14-6
227	nickel chromate	14721-18-7
228	dinickel hexacyanoferrate	14874-78-3
229	nickel selenate	15060-62-5
230	sodium perborate	15120-21-5
	perboric acid, sodium salt	11138-47-9
	perboric acid, sodium salt, monohydrate	12040-72-1
	sodium peroxometaborate	7632-04-4
	perboric acid ($HBO(O_2)$), sodium salt, monohydrate	10332-33-9
231	nickel triuranium decaoxide	15780-33-3
232	nickel dilactate	16039-61-5
233	nickel(II) trifluoroacetate	16083-14-0
	nickel(II) propionate	3349-08-4
	nickel bis(benzenesulfonate)	39819-65-3
	nickel(II) hydrogen citrate	18721-51-2
	citric acid, ammonium nickel salt	18283-82-4
	citric acid, nickel salt	22605-92-1
	nickel bis(2-ethylhexanoate)	4454-16-4
	2-ethylhexanoic acid, nickel salt	7580-31-6
	dimethylhexanoic acid nickel salt	93983-68-7
	nickel(II) isooctanoate	29317-63-3
	nickel isooctanoate	27637-46-3
	nickel bis(isononanoate)	84852-37-9
	nickel(II) neononanoate	93920-10-6
	nickel(II) isodecanoate	85508-43-6
	nickel(II) neodecanoate	85508-44-7
	neodecanoic acid, nickel salt	51818-56-5
	nickel(II) neoundecanoate	93920-09-3
	bis(d-gluconato-O1,O2)nickel	71957-07-8
	nickel 3,5-bis(tert-butyl)-4-hydroxybenzoate (1:2)	52625-25-9
	nickel(II) palmitate	13654-40-5
	(2-ethylhexanoato-O) (isononanoato-O)nickel	85508-45-8
	(isononanoato-O) (isooctanoato-O)nickel	85508-46-9
	(isooctanoato--) (neodecanoato-O)nickel	84852-35-7
	(2-ethylhexanoato-O) (isodecanoato-O)nickel	84852-39-1
	(2-ethylhexanoato-O) (neodecanoato-O) nickel	85135-77-9
	(isodecanoato-O) (isooctanoato-O)nickel	85166-19-4
	(isodecanoato-O) (isononanoato-O)nickel	84852-36-8
	(isononanoato-O) (neodecanoato-O)nickel	85551-28-6
	fapy acids, C6-19-branched, nickel salts	91697-41-5
	fapy acids, C8-18 and C18-unsaturated, nickel salts	84776-45-4
	2,7-naphthalenedisulfonic acid, nickel(II) salt	72319-19-8
234	potassium 1-methyl-3-morpholinocarbonyl-4-[3-(1-methyl-3-morpholinocarbonyl-5-oxo-2-pyrazolin-4-ylidene)-1-propenyl]pyrazole-5-olate containing < 0.5% N,N-dimethylformamide (EC No 200-679-5)	183196-57-8
235	7-methoxy-6-(3-morpholin-4-yl-propoxy)-3H-quinazolin-4-one Containing < 0.5% formamide (EC No 200-842-0)	199327-61-2
236	2-chloro-6-fluoro-phenol	2040-90-6
237	1-(2-amino-5-chlorophenyl)-2,2,2-trifluoro-1,1-ethanediol, hydrochloride, containing < 0.1% 4-chloroaniline (EC No 203-401-0)	214353-17-0

No.	Substance name	CAS No.
238	nickel(II) silicate	21784-78-1
	dinickel orthosilicate	13775-54-7
	nickel silicate (3:4)	31748-25-1
	silicic acid, nickel salt	37321-15-6
	trihydrogen hydroxybis[orthosilicato(4-)] trinickelate(3-)	12519-85-6
239	nickel(II) octadecanoate, nickel(II) stearate	2223-95-2
240	nickel hexafluorosilicate	26043-11-8
241	N,N-(dimethylamino)thioacetamide hydrochloride	27366-72-9
242	2,3-epoxypropyltrimethylammonium chloride; EPTAC; Oxiranemethanaminium, N,N,N-trimethyl chloride;	3033-77-0
243	Basic nickel carbonate, Carbonic acid, (2+) salt, Nickel carbonate	3333-67-3
	Carbonic acid, nickel salt	16337-84-1
	[μ-[carbonato(2-)-O:O']] dihydroxy trinickel	65405-96-1
	[carbonato(2-)] tetrahydroxytrinickel	12607-70-4
244	nickel diformate	3349-06-2
	formic acid, nickel salt	15843-02-4
	formic acid, copper nickel salt	68134-59-8
245	chloro-N,N-dimethylformiminium chloride	3724-43-4
246	nickel di(acetate)	373-02-4
	nickel acetat	14998-37-9
247	nickel bis(4-cyclohexylbutyrate)	3906-55-6
248	(2-chloroethyl)(3-hydroxypropyl)ammonium chloride	40722-80-3
249	nickel(II) octanoate	4995-91-9
250	nickel oxalate	547-67-1
	oxalic acid, nickel salt	20543-06-0
251	nickel dibenzoate	553-71-9
252	cyclic 3-(1,2-ethanediylacetale)-estra-5(10), 9(11)-diene-3,17-dione	5571-36-8
253	nickel dicyanide	557-19-7
254	N,N'-diacetylbenzidine	613-35-4
255	1,2-diethoxyethane	629-14-1
256	colchicine	64-86-8
257	1-[4-[4-[[(2SR,4RS)-2-(2,4-dichlorophenyl)-2-(imidazol-1-ylmethyl)-1,3-dioxolan-4-yl] methoxy]phenyl]piperazin-1-yl]ethanone ketoconazole	65277-42-1
258	nickel dichlorate	67952-43-6
	nickel dibromate	14550-87-9
	ethyl hydrogen sulfate, nickel(II) salt	71720-48-4
259	silicic acid, lead nickel salt	68130-19-8
260	C.I. 77332, C.I. Pigment Black 25, cobalt nickel gray periclase	68186-89-0
	cobalt nickel dioxide	58591-45-0
	cobalt nickel oxide	12737-30-3
261	C.I. 77900, C.I. Pigment Yellow 157, nickel barium titanium primrose priderite	68610-24-2
262	nickel mape	69012-50-6
263	cobalt acetate	71-48-7
264	diammonium nickel hexacyanoferrate	74195-78-1
265	trinickel bis(arsenite)	74646-29-0
266	dibutyltin hydrogen borate	75113-37-0
267	phenolphthalein	77-09-8
268	nickel dichloride	7718-54-9
269	nickel(II) sulfite	7757-95-1
270	nickel tellurium trioxide	15851-52-2
	nickel tellurium tetraoxide	15852-21-8
	molybdenum nickel hydroxide oxide phosphate	68130-36-9
271	nickel sulfate	7786-81-4
272	(E)-3-[1-[4-[2-(dimethylamino)ethoxy] phenyl]-2-phenylbut-1-enyl]phenol	82413-20-5
273	N-[6,9-dihydro-9-[[2-hydroxy-1-(hydroxymethyl)ethoxy]methyl]-6-oxo-1H-purin-2-yl]acetamide	84245-12-5
274	quinoline	91-22-5
275	biphenyl-3,3',4,4'-tetrayltetraamine, diaminobenzidine	91-95-2

No.	Substance name	CAS No.
276	slimes and sludges, copper electrolyte refining, decopperised nickel sulfate	92129-57-2
277	slimes and sludges, copper electrolyte refining, decopperised	94551-87-8
278	2-butyryl-3-hydroxy-5-thiocyclohexan-3-yl-cyclohex-2-en-1-one	94723-86-1
279	chloroalkanes	74-87-3
		75-09-2
		67-66-3
		75-00-3
		79-00-5
		79-34-5
		78-87-5
		85535-85-9
280	Trifluralin (ISO) (containing < 0.5 ppm NPDA)	1582-09-8
281	allyl 2,3-epoxypropyl ether	106-92-3
282	carbendazim	10605-21-7
283	di-"isoalkyl"phthalates	27554-26-3
284	solvents naphtha (coal & petroleum)	65996-79-4
		92062-15-2
		64742-89-8
		64742-95-6
		8052-41-3
		8032-32-4
285	Naphthas	8030-30-6
		68783-09-5
		85116-59-2
		64741-64-6
		68527-27-5
		64741-42-0
		64741-65-7
		92045-50-6
		101631-20-3
		64741-41-9
		92045-52-8
		64742-82-1
		64742-73-0
		92045-53-9
		85116-60-5
		64742-48-9
		64742-49-0
		64741-70-4
		92045-58-4
		64741-66-8
		64741-55-5
		92045-59-5
		68513-03-1
		64741-69-1
		64741-46-4
		92045-65-3
		92045-60-8
		68783-66-4
		64741-84-0
		64741-87-3
		101795-01-1
		68783-12-0
286	Nonylphenol	84852-15-3
287	Tar derivatives	68815-21-4
		84989-03-7
		68513-87-1
		8007-45-2
		65996-89-6
288	Distillates (coal tar)	90640-86-1
		91995-42-5
		91995-51-6
		91995-52-7
289	Residues (coal tar), pitch distn.	92061-94-4
290	nitromethane	75-52-5
291	phenylenediamines	95-54-5
		108-45-2
		74-31-7
		101-72-4

No.	Substance name	CAS No.	No.	Substance name	CAS No.
292	3,4-dichloroaniline	95-76-1	304	Hydrocarbons, C3-20	68476-40-4
293	carbon disulphide	75-15-0	(cont'd)		68512-91-4
294	nitrobenzene	98-95-3			92045-64-2
295	thiourea	62-56-6	305	Isobutane	75-28-5
296	cresol & its isomers	1319-77-3	306	Paraffins, chlorinated	85422-92-0
		108-39-4	307	3-chloropropene	107-05-1
		106-44-5	308	diuron	330-54-1
		95-48-7	309	benzoyl chloride	98-88-4
297	alkyl acrylates	141-32-2	310	2-alkyloxyethanol	111-76-2
		103-11-7	311	C,C'-azodi(formamide)	123-77-3
		1663-39-4	312	aminophenol	95-55-6
		818-61-1	313	4-aminophenol	123-30-8
		140-88-5	314	N,N-dimethylaniline	121-69-7
		80-62-6	315	p-toluidine	106-49-0
		106-63-8	316	p-phenetidine	156-43-4
		96-33-3	317	amitrole	61-82-5
		97-63-2	318	ethylbenzene	100-41-4
		97-86-9	319	toluene	108-88-3
		97-88-1	320	4-tert-butyltoluene	98-51-1
		868-77-9	321	(R)-p-mentha-1,8-diene	5989-27-5
		2867-47-2	322	vinyl acetate	108-05-4
		42978-66-5	323	Bis(hydroxylammonium) sulphate	10039-54-0
		3524-68-3	324	Dimethoate	60-51-5
		15625-89-5	325	2,2'-[(1-methylethylidene) bis (4,1-phenylene oxymethylene)]bisoxirane	1675-54-3
		13048-33-4			
298	Malathion	121-75-5	326	[(tolyloxy) methyl]oxirane	26447-14-3
299	chlorpyrifos	2921-88-2	327	1,3-dichloropropene	10061-01-5
300	Alkanes, C1-5	90622-55-2			542-75-6
		68475-58-1	328	1,1-dichloroethylene	75-35-4
		68475-59-2	329	iodomethane	74-88-4
		68475-60-5	330	dichlorobenzene	106-46-7
301	Petroleum gases, liquefied	68476-85-7	331	chlorocresol	59-50-7
		68476-86-8			1570-64-5
302	Distillates (petroleum)	64742-13-8	332	methylenediphenyl diisocyanate & isocyanatobenzyl)phenyl isocyanate	101-68-8
		68513-63-3			26447-40-5
		64742-34-3			5873-54-1
		64742-36-5	333	diisocyanates	584-84-9
		91995-41-4			26471-62-5
		67891-79-6			5124-30-1
		64741-76-0			822-06-0
		64741-53-3	334	3,5,5-trimethylcyclohex-2-enone	78-59-1
		64741-51-1	335	2-methyl-4,6-dinitro-phenol	534-52-1
		64742-80-9	336	tributyl phosphate	126-73-8
		68410-98-0	337	4-vinylcyclohexene	100-40-3
		64742-52-5	338	phenol	108-95-2
		64742-54-7	339	cobalt	7440-48-4
		64742-55-8	340	Cobalt sulphide	1317-42-6
		64742-46-7	341	glyoxal	107-22-2
		64741-77-1	342	Tetrachloroisophthalonitrile	1897-45-6
		64741-52-2	343	piperazine	110-85-0
		68475-80-9	344	N-propyl-N-[2-(2,4,6-trichlorophenoxy)ethyl]-1H-imidazole-1-	67747-09-5
		91995-50-5			
		64742-63-8	345	2-chloroacetamide	79-07-2
		64742-65-0	346	2,2',2''-(hexahydro-1,3,5-triazine-1,3,5-triyl) triethanol	4719-04-4
		64742-56-9			
		64741-96-4	347	biphenyl	92-52-4
		64741-88-4	348	azinphos-methyl	86-50-0
		64741-97-5	349	naphthol	90-15-3
		64741-89-5			135-19-3
		64741-91-9	350	2-methoxypropanol	1589-47-5
		68477-55-4	351	Residues (petroleum)	92061-97-7
303	Extracts (petroleum), solvent	91995-68-5			64741-75-9
		64742-04-7			64742-90-1
		90641-08-0			68476-33-5
		64742-05-8	352	Residual oils (petroleum)	64742-41-2
304	Hydrocarbons, C3-20	68476-50-6			64742-57-0
		97722-08-2			64741-95-3
		97675-86-0			64742-01-4
		68514-36-3	353	Lubricating oils	74869-22-0
		68606-25-7			101316-69-2
		68476-49-3			72623-86-0
		68476-46-0			101316-70-5

No.	Substance name	CAS No.
353 (cont'd)	Lubricating oils	92045-42-6
		101316-71-6
		72623-87-1
		72623-85-9
		101316-72-7
		92045-43-7
354	Petrolatums (petroleum)	64743-01-7
		97862-97-0
		100684-33-1
		8009-03-8
355	Slack wax (petroleum)	64742-61-6
356	Alkanes, C12-26-branched and linear	90622-53-0
357	Pitch, coal tar	90669-57-1
358	arsenic acid & salts	7778-39-4
		7631-89-2
		7778-44-1
359	gallium arsenide	1303-00-0
360	Refractory Ceramic Fibres (RCF)	-
361	Paraffin oils (petroleum), catalytic dewaxed heavy	64742-70-7
362	Benzidine-based dyes	3520-72-7
		5468-75-7
363	Creosote	8001-58-9
	Creosote oil	90640-84-9
364	Lubricating greases	74869-21-9
365	Quartz (SiO_2)	14808-60-7
366	cyclohexylamine	108-91-8
367	trisodium nitrilotriacetate	5064-31-3
368	cyclododecane	294-62-2
369	isoprene	78-79-5
370	camphene	79-92-5
371	1,2-epoxybutane	106-88-7
372	4-hydroxybenzoic acid	99-96-7
373	N-1,3-dimethylbutyl-N'-phenyl-p-phenylenediamine	793-24-8
374	1,3-diphenylguanidine	102-06-7
375	N,N'-bis(1,4-dimethylpentyl)-p-phenylenediamine	3081-14-9
376	Asphalt	8052-42-4
377	Pin-2(3)-ene	80-56-8
378	1,4-dioxane	123-91-1
379	2-(2-methoxyethoxy)ethanol	111-77-3
380	pyrocatechol	120-80-9
381	biphenyl-2-ol	90-43-7
382	1,3,5-trioxane	110-88-3
383	1,2,4-triazole	288-88-0
384	1-vinyl-2-pyrrolidone	88-12-0
385	vinyl neodecanoate	51000-52-3
386	2-furaldehyde	98-01-1
387	acenaphthene	83-32-9
388	Bis(isopropyl)naphthalene	38640-62-9
389	2-ethylhexanoic acid	149-57-5
390	diphenyl phosphates	1241-94-7
391	2,4-di-tert-butylphenol	96-76-4
392	xylenol	1300-71-6
393	2,4,6-trichlorophenol	88-06-2
394	Triphenylphosphine	603-35-0
395	Carbon black	1333-86-4
396	Carrageenan	9000-07-1
397	cobalt dihydroxide	21041-93-0
398	titanium dioxide	13463-67-7
399	tricobalt compounds	866-81-9
400	hexamethyldisiloxane	107-46-0
401	methyl paraben	99-76-3
402	tetrabutyltin	1461-25-2
403	3-(4-isopropylphenyl)-1,1-dimethylurea	34123-59-6
404	molybdenum trioxide	1313-27-5
405	furfuryl alcohol	98-00-0
406	acetaldehyde	75-07-0
407	crotonaldehyde	4170-30-3
408	1,4,5,6,7,7-hexachloro-8,9,10-trinorborn-5-ene-2,3-dicarboxylic anhydride	115-27-5
409	(3-chloro-2-hydroxypropyl)trimethyl ammonium chloride	3327-22-8
410	cis-4-[3-(p-tert-butylphenyl)-2-methyl propyl]-2,6-dimethylmorpholine	67564-91-4
411	Acetone	67-64-1
412	acetonitrile	75-05-8
413	citronellol	106-22-9
414	Geraniol	106-24-1
415	ethylenediamine	107-15-3
416	2,2'-iminodi(ethylamine)	111-40-0
417	3,6,9-triazaundecamethylenediamine	112-57-2
418	3-aminopropyldimethylamine	109-55-7
419	3-aminomethyl-3,5,5-trimethylcyclohexyl amine	2855-13-2
420	Methenamine	100-97-0
421	2-piperazin-1-ylethylamine	140-31-8
422	Amines, polyethylenepoly-	68131-73-7
423	2,4,6-trichloro-1,3,5-triazine	108-77-0
424	Propylamine	107-10-8
425	trientine	112-24-3
426	3,6,9,12-tetraazatetradecamethylenediamine	4067-16-7
427	perhydro-1,3,5-trinitro-1,3,5-triazine	121-82-4
428	delta 3 carene	13466-78-9
429	1,4-bis(2,3-epoxypropoxy)butane	2425-79-8
430	phthalic anhydride	85-44-9
431	benzene-1,2,4-tricarboxylic acid 1,2-anhydride	552-30-7
432	tetrahydrophthalic anhydrides	34090-76-1
		11070-44-3
		85-43-8
		19438-60-9
433	Melamine	108-78-1
434	p-phenylenediamine	106-50-3
435	pyridine	110-86-1
436	xylene	95-47-6
		106-42-3
		108-38-3
		1330-20-7
437	cumene	98-82-8
438	Vinyltoluene	25013-15-4
439	Aluminium	7429-90-5
440	Butan-1-ol	71-36-3
441	Carbazole	86-74-8
442	Alkanes, C3-9	74-98-6
		111-65-9
		111-84-2
443	hydrogen cyanide & its alkaline salts	74-90-8
		151-50-8
		143-33-9
444	1-methoxypropan-2-ol	107-98-2
445	but-2-yne-1,4-diol	110-65-6
446	2,3,5-trimethylhydroquinone	700-13-0
447	2-(morpholinothio)benzothiazole	102-77-2
448	Bis(2-ethylhexyl) adipate	103-23-1
449	cyclohexanol	108-93-0
450	2-chloroethanol	107-07-3
451	2-diethylaminoethanol	100-37-8
452	2-(2-butoxyethoxy)ethanol	112-34-5
453	acrylaldehyde	107-02-8
454	peroxodisulphates	7727-54-0
		7727-21-1
455	sodium hydrogen glutamate	142-47-2
456	potassium permanganate	7722-64-7
457	diallyl phthalate	131-17-9
458	O-(6-chloro-3-phenylpyridazin-4-yl) S-octyl thiocarbonate	55512-33-9
459	2-(2-butoxyethoxy)ethyl 6-propylpiperonyl ether	51-03-6
460	dimethoxymethane	109-87-5
461	Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	68609-97-2
462	Ethane-1,2-diol	107-21-1

No.	Substance name	CAS No.	No.	Substance name	CAS No.
463	hydrogen sulphide	7783-06-4	485	Clorofene	120-32-1
464	iodine	7553-56-2	486	tungsten	7440-33-7
465	3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	4098-71-9	487	tin	7440-31-5
			488	benzothiazole-2-thiol	149-30-4
466	methyl isothiocyanate	556-61-6	489	alfa-hexylcinnamaldehyde	101-86-0
467	Propan-2-ol	67-63-0	490	Hexahydro-1,3,5-Trimethyl-S-Triazine	108-74-7
468	1,2,3,5,6,7-hexahydro-1,1,2,3,3-pentamethyl-4H-inden-4-one	33704-61-9	491	methylhydrazine	60-34-4
			492	disulfiram	97-77-8
469	Pentan-3-one	96-22-0	493	tetramethylthiuram monosulphide	97-74-5
470	Triadimefon	43121-43-3	494	sodium azide	26628-22-8
471	butanone oxime	96-29-7	495	2-phenylpropene	98-83-9
472	1,2-benzisothiazol-3(2H)-one	2634-33-5	496	citral	5392-40-5
473	manganese & its compounds	7439-96-5	497	glutaraldehyde	111-30-8
		1313-13-9	498	cyclohexane-1,2-dicarboxylic anhydride	85-42-7
		1344-43-0	499	epsilon-caprolactam	105-60-2
		7785-87-7	500	di(benzothiazol-2-yl) disulphide	120-78-5
474	methanol	67-56-1	501	N-cyclohexylbenzothiazole-2-sulfenamide	95-33-0
475	Butanone	78-93-3	502	cyanamide	420-04-2
476	Turpentine, oil	8006-64-2	503	dichlofluanid	1085-98-9
477	Tall-oil rosin	8052-10-6	504	tosylchloramide sodium	127-65-1
		8050-09-7	505	phenmedipham	13684-63-4
478	sodium 3-nitrobenzenesulphonate	127-68-4	506	dibenzoyl peroxide	94-36-0
479	heptanoic acid	111-14-8	507	Subtilisin	9014-01-1
480	sulphanilic acid	121-57-3	508	Amylase, gluco-	9032-08-0
481	maleic acid	110-16-7	509	[4-[4,4'-bis(dimethylamino)benzhydrylidene] cyclohexa-2,5-dien-1-ylidene]dimethyl ammonium chloride	548-62-9
482	triphenyl phosphate	115-86-6			
483	triisobutyl phosphate	126-71-6			
484	dinitrogen oxide	10024-97-2			