Toxic-Free Childcare Guide

Practical tips for staff, owners & policy makers

UTS Institute for Sustainable Futures

UTS and ISF acknowledges the Gadigal People of the Eora Nation, the Boorooberongal people of the Dharug Nation, the Bidiagal people and the Gamaygal people upon whose ancestral lands our university stands. We would also like to pay respect to the Elders both past and present, acknowledging them as the traditional custodians of knowledge for these lands.

About this guide

The Institute for Sustainable Futures has prepared this guide based on a desktop review of literature related to hazards that may be present in products commonly used in childcare centres and preschools. It is intended as a helpful tool to prompt centre owners, managers and staff to ask questions about the potential risks of products and practices, rather than being a definitive authority on specific chemicals or risks. It builds on previous guides such as the European Union's NonHazCity "Guidelines for Toxin Free Preschools", the Green Science Policy Institute's guide to the "Six Classes of Harmful Chemicals", and the Toxics Use Reduction Institute's "Toxic Chemicals in Children's Products: Guide to Chemicals of Concern" referenced in this guide.

About ISF

The Institute for Sustainable Futures (ISF) is an interdisciplinary research and consulting organisation within the University of Technology Sydney. ISF has been conducting project-based research across Australia and internationally since 1997. Reflecting the transdisciplinary nature of sustainability knowledge and practice, the Institute's researchers come from varied backgrounds.

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WHAT YOU'LL FIND IN THIS GUIDE

Keeping kids safe and healthy is the top priority for early learning and preschool educators.

Thankfully Australia has strict guidelines related to child health and safety. However, these guidelines do not yet account for many of the potentially hazardous substances that children can be exposed to.

There are more different types of chemicals in our living environments now than ever before. It is estimated there are around 350,000 chemicals registered for production and use globally, with about 2000 new ones coming onto the market

each year.[1, 2] Unfortunately, only a fraction of these have been tested for their long-term effects on human health and the environment. Many of these chemicals are safe and useful, and make modern life possible. However, others are potentially hazardous and often unnecessary.

Childcare centres and preschools have been identified as significant places where children might be exposed to potentially hazardous substances.[3] Currently there isn't much information available that can help childcare service operators identify risks and make changes.

Who should use this guide

This guide is intended to help childcare and preschool centre owners and staff, as well as relevant Australian state and territory policy makers, understand the risks and provide practical actions to help ensure the safety of children using these services.

The first section provides an overview of the main chemical classes to look out for and their risks. The remainder of the guide looks into each space in a typical childcare centre and highlights what types of products to avoid and lists some safer alternatives.

Making some of these changes may be challenging, but even small actions can make a significant difference to the health of kids using childcare services.

What's okay and what to avoid: a guide to each space on page 12

BACKGROUND

Chemicals that are known to be toxic to humans have been found in products such as toys, furniture, electronics, clothing and building materials.

Despite some regulation, current laws in Australia do not require many potentially hazardous chemicals to be tested for many of their long-term health effects, such as their potential to cause some cancers, reproductive and developmental abnormalities.

Unfortunately, some research has shown that children are more sensitive to many of these chemicals than adults, due to their behaviour, the types of products they engage with, the smaller size of their bodies, and the developmental stage of their organs.[4] Exposures during the development of organs such as the lungs and brain can result in lifelong impacts. Some children are even more vulnerable due to genetics and socio-economic variables, including higher exposures in other environments they occupy.

Basic guiding principles to keep kids safe

This guide will list a number of specific products that should be avoided and how they can be replaced, but when you are unsure there are some helpful general principles you can follow to help keep kids safe:

1. Avoid products with strong fragrances
2. Air-out new products and keep spaces well ventilated
3. Avoid children's products made from recycled materials, particularly plastics, unless deemed safe for the given purpose
4. Only use products for their intended purpose
5. Older toys and furnishings may be unsafe, particularly plastics
6. Avoid non-stick, grease-proof and flame-retardant products
7. Limit the application of antimicrobial and pest control products

Given the number of chemicals present in the environment and the lack of testing, understanding which ones are harmful and how to remove them can be challenging. To help you as individuals and services to navigate these challenges, there are some groups of chemicals that are especially important to look out for. Rather than focusing on memorising hundreds of individual chemicals, a "chemical class" based approach can be followed.

THE KEY CULPRITS

The six classes institute groups chemicals of concern into six classes of similar chemicals that should be avoided. They have summarised the risks associated with these groups, which include:

1. **PFAS (per- and polyfluoroalkyl substances)**

   PFAS are used in many consumer products because of their oil, stain, and water-resistant properties. Examples of chemicals in this class include PFOA, PFOS, and over 10,000 related compounds. PFAS are used in carpets, cleaners, clothing, cookware, food packaging, furnishings, outdoor apparel, paints, papers, protective coatings and sealants, and firefighting foams.

   PFAS are linked to kidney and testicular cancer, elevated cholesterol, decreased fertility, and thyroid problems and decreased immune response to vaccines in children.

Look out for products labelled flame retardant, water resistant, or grease proof and do not specify they are free of hazardous substances.

2. **Antimicrobials**

   Some of the antimicrobials are added to products to kill or restrict the growth of microbes. They can also be called antibacterials or biocides. Anti-microbials that may be damaging to human health are called halogenated aromatic compounds, nanosilver, and quaternary ammonium compounds (QACs or quats).

   Uses include cleaning and personal care products, clothing and other textiles, building materials, kitchenware and electronics.

Antimicrobials kill beneficial as well as pathogenic microbes, and contribute to the spread of antimicrobial resistance. Certain antimicrobial chemicals can also have more direct health impacts. For example, triclosan is a hormone disruptor associated with developmental and reproductive abnormalities, and allergen sensitivity. Also, Quats are associated with asthma, skin irritation, and respiratory, nervous system, immunological, reproductive and developmental illnesses.

Look out for products labelled antibacterial, antimicrobial, anti-odour, or "kills 99% of germs".

3. Flame retardants

Flame retardants are chemicals that are intended to prevent products from catching fire, with varying degrees of efficacy. They are used in furniture, children's products, mattresses, carpets, electronics enclosures, and building materials, despite being unnecessary and offering limited safety benefits in these types of products. Flame retardants of concern include organohalogen and organophosphate chemicals such as polybrominated diphenyl ethers (PBDEs) and chlorinated tris (TDCPP).

Look out for products labelled "flame retardant" or "fire proof"

Certain flame-retardant chemicals are linked to lowered IQ and hyperactivity in children, in addition to cancer, hormone disruption, and decreased fertility in adults.

4. Bisphenols and Phthalates

Bisphenols and phthalates are used for numerous purposes, including as a preservative and to make plastics stronger or more flexible.

Bisphenols can be found in certain polycarbonate plastic products (such as water bottles, tins and other food storage containers, toys and sports equipment), and cash register receipts. Phthalates are in some polyvinyl chloride (PVC) plastic products (such as vinyl flooring, toys, plastic

wrap, and food packaging and containers), glues, sealants, paints, personal care items, and air fresheners.

Bisphenols and phthalates are hormone disrupting, and can mimic or block hormones even at very low doses. Young and unborn children are particularly vulnerable. For example, early life exposure to Bisphenol A (BPA) has been associated with asthma and neurodevelopmental issues such as hyperactivity, anxiety, depression, and aggression. In adults, it is associated with obesity, type 2 diabetes, heart disease, decreased fertility, and prostate cancer.

Prenatal and early life exposure to phthalates is linked also linked to asthma, allergies, and cognitive and behavioural issues. It may also affect reproductive development in boys, and fertility in men.

Look out for products labelled with recycling codes 3 or 7, which suggest they may be made with bisphenols or phthalates, and select products labelled bisphenol, phthalate and fragrance-free.

5. Some Solvents

Solvents are a broad class of chemicals are used to dissolve or disperse other substances.

Solvents of concern include aromatic hydrocarbon solvents (e.g., toluene, xylene, benzene) and halogenated organic solvents (e.g., methylene chloride, perchloroethylene, trichloroethylene). Common products containing solvents include oil-based paints, paint strippers, adhesives, wood finishes, markers, aerosols, garment dry cleaning, sealants, and cleaning products.

Inhaling solvent vapours can cause temporary headaches and dizziness. Long-term exposure to solvents such as methylene chloride, perchloro-ethylene, trichloroethylene, and benzene can increase cancer risk. Low-level exposure to some solvents can also lead to harm, for example early life exposure to perchloroethylene in drinking water is linked to neurodevelopmental effects.

Look out for oil-based paints, building products, adhesives and sealants with a strong smell and always ventilate a space well after the application of paint or other finishes.

6. Heavy Metals

Mercury, arsenic, cadmium, and lead are elements that naturally occur but present risks to human health. Exposure to each metal in the womb or early childhood is associated with brain development issues, leading to learning and behavioural problems, in addition to increased cancer risk. Mercury and arsenic are linked to nervous and cardiovascular system disorders, cadmium is associated with lung and kidney damage, and lead can cause miscarriages, infertility, and decreased kidney and brain function.

In the context of a childcare centre, items that should be avoided include playing with fluorescent lights, metal costume jewellery and charms, rechargeable batteries (labeled NiCd or NiCad), poor quality dishware and cookware, toys, and imported or recycled vinyl products, pressure treated wood in outdoor structures, and peeling paint (particularly on buildings built before the 1980s).

Look out for the items that list these metals. Further protection can be created through eliminating dust and ensuring children wash their hands regularly.

If you suspect a product may have one of these substances in it, you can call or email the manufacturer, or seek an alternative.

If you have further questions about **why children are particularly vulnerable** to these classes of hazardous chemicals, and **why these chemicals are allowed in products** if they are so harmful, information on additional reading and resources are included at the end of this guide.

What's Okay and What to Avoid

A Guide to Each Space

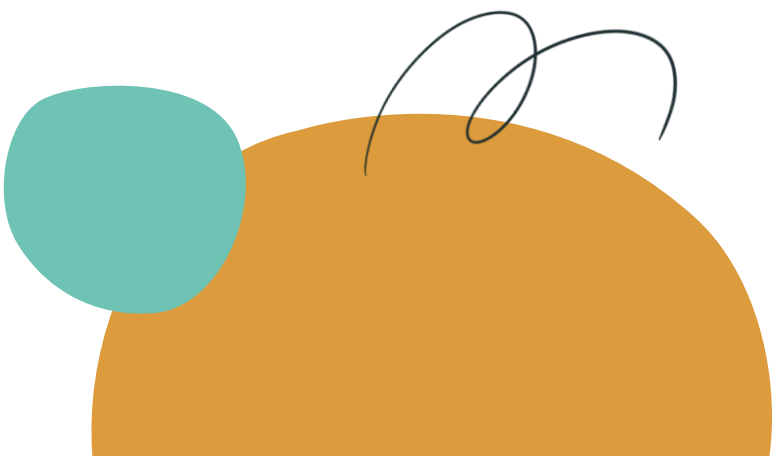
The following lists provide a simple guide to what to avoid and what is okay.[5]

Each list will show actions that can be taken by centre owners and managers responsible for procurement as well as actions for centre staff and managers.

Note: there is a guide to plastic abbreviations on page 36.

You might notice that many of the recommendations refer to certifications and changes in regulation in Europe rather than Australia. This is because the European Union has more advanced restrictions and guidelines for many relevant products.

Fortunately many products available in Australia have been certified under European standards (such as products displaying the CE label). However, there are still many products on the Australian market that have not, making it challenging to assess their potential toxicity without seeking further information from the manufacturer.



KITCHEN/EATING

Food selection

Avoid

Centre owners & managers responsible for procurement

- Food overly packaged in plastic, which may shed micro-plastics into food upon opening

Centre staff & managers

- Limit tinned foods, and other forms of packaging containing Bisphenols (e.g. BPA and BPS)
- Fruit and vegetables that have been treated with pesticides and/or not washed thoroughly with water

Okay

Centre owners & managers responsible for procurement

- Food without packaging, reusable packaging or packaged in paper/cardboard where possible
- Organic or thoroughly washed fruit and vegetables

What is PVC?

PVC, or polyvinyl chloride, often contains additives such as phthalates, lead, cadmium, or organotins, which can be toxic to children's health. These additives can leach out or evaporate into the air as a product is used.

Food preparation

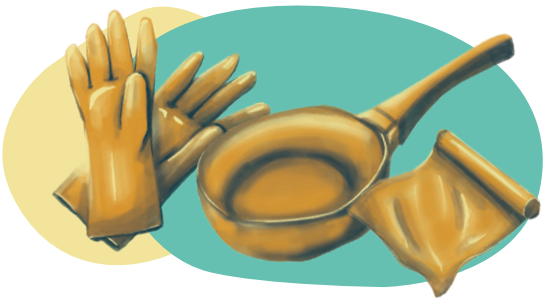
Avoid

Centre owners & managers responsible for procurement

- Paper designed to withstand grease and high temperatures, such as standard baking paper, muffin liners and popcorn bags for use in microwave ovens
- Non-stick frying pans (particularly if scratched)
- Plastic cutting boards

Centre staff & managers

- Plastic wrap in direct contact with food or used to cover hot food, and any made from PVC
- Microwaving food in or covered with plastic
- PVC gloves—they often contain phthalates, which may pass into the food during cooking
- Materials not approved for contact with food
- Scratched or worn plastic products



Okay

Centre owners & managers responsible for procurement

- Reusable non-toxic silicone baking sheets, and unbleached, fluoride and chlorine-free baking paper
- Beeswax wraps, foil, reusable containers and, if essential, plastic wrap made of polyethylene (PE, PE-LD)
- Frying pans, saucepans, service pans, baking tins and baking plates made of cast iron, carbon steel or stainless steel
- Wooden or stainless-steel utensils wherever possible. Note some wood glues can be toxic
- Cotton and paper cloths
- Table-covering materials intended for contact with food
- Cutting boards made from wood, bamboo, glass, stone, or silicone, and not treated with toxic resins or other chemicals

Centre staff & managers

- Heating food in glass or stainless-steel containers
- Gloves made of nitrile rubber or polyethylene and intended for use with food

INDOOR ACTIVITY AND SLEEP[6]

Avoid

Centre owners & managers responsible for procurement

- Furniture from the 1970s and 1980s with foam-rubber, as many have been treated with flame retardants
- Dirt-repelling treatments on furniture and textiles
- Old foam-rubber mattresses
- Mattresses and nursing-table pads with a PVC cover
- Oilcloths and aprons made of PVC
- Mats with an anti-slip coating
- Foam-rubber washcloths
- Gloves made of PVC or vinyl

Okay

Centre owners & managers responsible for procurement

- Furniture without flame retardants and dirt-repelling treatments
- Furniture without foam and upholstery or with a washable covering
- Mattresses without chemical flame retardants and made of materials other than foam rubber
- Mattress covers without PVC, that are removable, washable and made of textiles or of plastics such as polyethylene (PE), polypropylene (PP) and possibly polyurethane (PUR)
- Eco-labelled oilcloths or cloths with a coating made of acrylic plastics, PUR, polyester (PL), polyamide (PA) or polyethylene vinyl acetate (PEVA)
- Mats with a grooved bottom surface or an uncoated mat combined with a non-slip mat made of natural materials
- Eco-labelled textiles, such as GOTS or OEKO-TEX
- Blankets made of natural materials such as cotton, wool or bamboo

PLAY

Toys

Avoid

Centre owners & managers responsible for procurement

- Non-toys, particularly old electronics, metal jewellery, keys and building materials, e.g. PVC tubes and hoses, insulating material and cable
- Toys made from PVC
- Soft plastic toys which are sticky, stuffed with foam rubber or marked as flame resistant unless they display the CE label
- Objects and materials with a strong smell
- Electronic products made before 2007, such as videogame consoles, mobile phones, cameras, and computers
- Dress-up clothes, bags and other items with parts made of artificial leather (PVC), plastics or metal
- Receipts
- Toys with peeling paint
- Toys containing recycled plastics (including recycled polyester) unless certified as safe

Okay

Centre owners & managers responsible for procurement

- Hard plastic toys made of ABS, PE and PP, which are better plastics, e.g. Plus-Plus, Duplo, Lego and Nopper
- Toys made according to European Union standards post-2007 that show the CE label
- Toys made of wood, textiles and metals such as stainless steel, other steel or aluminium.
- Wooden toys made of solid pieces of wood are better than those made of particle board
- Soft toys stuffed with PL; non-flame resistant, CE-marked cuddly toys

Centre staff & managers

- Always wash clothes and textiles before letting the children play with them. Give newly purchased plastic and rubber products a good airing

Craft materials

Avoid

Centre owners & managers responsible for procurement

- Modelling clay made of PVC
- Natural clay not checked for lead
- Glues marked with hazard symbols
- Regular oil paint and artist's paint
- Aprons made of vinyl oilcloth
- Receipt paper and thermal paper
- Spray products, such as paint and glue
- Any materials with a strong smell

Centre staff & managers

- Children putting cardboard or paper in their mouths

Okay

Centre owners & managers responsible for procurement

- Modelling clays made of vegetable waxes or oils, or natural clay marketed as having a low lead content
- Beads made of wood or glass
- Home-made salt dough and play dough
- Glues adapted for use by children
- Water-based paint adapted for use by children
- Water-based chalks and pens adapted for use by children, without solvents or heavy metals
- Aprons made from old T-shirts, CE-marked PL, PA or PEVA
- Eco-labelled paper
- Recyclable cardboard, e.g. cardboard boxes, toilet-paper tubes and food packages such as pizza boxes and paper mugs

Reused play materials

Avoid

Centre owners & managers responsible for procurement, & centre staff

- Impregnated wood, e.g. pressure-treated wood
- Food tins with a plastic coating
- Crystal glass (which often contains lead)
- Artificial leather
- Electronic products (not toys)
- Cardboard boxes previously used as packaging for electronic products
- Plastics not intended for use by children or for use with food
- PS (styrofoam)
- Foam rubber
- Building materials, e.g. PVC tubes and hoses, insulating material, cables, pressure-treated wood and pieces of flooring
- Children having cardboard or paper in their mouth

Okay

Centre owners & managers responsible for procurement

- Untreated wood
- Stainless steel, other steel, aluminium
- Food tins without a plastic coating.
- China and glazed tiles
- Regular glass
- Washed textiles and organic textiles
- Cardboard boxes, toilet-paper rolls and cardboard food packages such as pizza boxes
- Plastics intended for use by children or for use with food

OUTDOORS

Play equipment and toys

Avoid

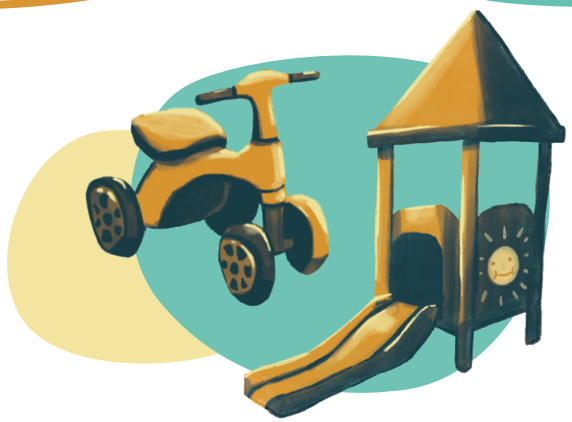
Centre owners & managers responsible for procurement

- Creosote-treated wood, e.g. railway sleepers and telegraph poles
- Pressure-impregnated wood
- Old car tyres, for swings or other equipment, which contain numerous toxicants and shed micro-plastics
- Hoses made of PVC, insulating material, cables and other material not adapted for use by children

Okay

Centre owners & managers responsible for procurement

- Heat-treated wood or wood treated with a silicon-based impregnating agent
- Untreated wood, such as heartwood as well as larch and oak, which are naturally more durable than certain other types of wood
- Untreated wood which is painted or oiled with an eco-labelled paint or surface-treatment agent
- High-pressure laminate (HPL) or laminated wood
- Aluminium, sheet metal and steel
- Swings and playing equipment made of materials intended for children and for play
- Sandpit sand intended for use by children
- Tubes and hoses classified as toys or intended for use with food
- Products made of untreated or heat-treated wood or of sheet metal



Outdoor surfaces

Avoid

Centre owners & managers responsible for procurement

- Artificial turf
- Old car tyres in play areas
- Fall protection made of artificial materials, such as “wet pour” surfaces
- Rubber granules made from car tyres

Okay

Centre owners & managers responsible for procurement

- Natural materials and untreated pallet collars in planted areas
- Grass and other non-toxic vegetation
- Wood chips, bark, cork or sand

MAINTENANCE

Pest and weed management

Avoid

Centre owners & managers responsible for procurement, & centre staff

- If a pesticide must be used, select the least toxic option, follow regulations and notify parents 48 hours in advance

Okay

Centre owners & managers responsible for procurement

- Weeding by hand
- Using traps to catch vermin

Cleaning and hygiene

Avoid

Centre owners & managers responsible for procurement, & centre staff

- Avoid all air-fresheners and fragranced air care products
- Hand sanitisers, cleaning and disinfectants containing benzalkonium chloride, fragrance (or parfum), triclosan, triethanolamine, dyes and colorants, propylene glycol, preservatives (found mostly in sanitizing wipes) including parabens, potassium sorbate, sodium benzoate, and methylisothiazolinone
- Soap and other hygiene products (including sunscreen) with strong fragrances, parabens, phthalates or containing the antimicrobials triclosan or triclocarban
- Disposable plastic nappies that contain chlorine, fragrance, phthalates, lotions, and artificial deodorisers

Okay

Centre owners & managers responsible for procurement

- Good natural ventilation, and where not possible, a HVAC system that filters the air
- Hand sanitiser and hygiene products containing Hypochlorous Acid, alcohol, Thymol, Citral or hydrogen peroxide, and without fragrances and colorants
- Electrolysed water-based cleaning and disinfectant systems
- Soap and other hygiene products (including sunscreen) free from strong fragrances, parabens, phthalates or containing the antimicrobials triclosan or triclocarban
- Where possible, utilise a nappy service for reusable or fully biodegradable nappies that do not contain chemical toxicants

So, what now...?

Many of these changes may seem too significant to implement immediately, and may take time, especially where existing infrastructure and contracts are in place. There are actions that can be taken right now by childcare centre owners, staff and government policy makers to ensure childcare centres are as safe as possible.

WHAT CENTRE OWNERS AND MANAGERS CAN DO

For existing services, it is recommended that a review is conducted based on the recommendations above, and items removed and replaced where necessary. For newly established centres, the recommendations can inform initial procurement. If you're unsure about the chemical additives in products, contact the manufacturer directly.

Beds and other furnishings

Select natural fibres where possible, avoid PVC and materials with toxic additives (e.g. flame retardants and antimicrobials), always wash or air-out new furnishings.

Toys

Only purchase age-appropriate purpose-designed toys. Look for the CE label or equivalent safety certification, and avoid toys manufactured before 2007, when toy safety legislation was tightened in Europe.

A Quick Guide for Checking Old Toys

Dispose if it:

Soft plastics

- Is made before 2007
- Smells of plastic or perfume
- Feels sticky or greasy

Textiles

- labelled as flame resistant or retardant
- Anti-bacterial
- Filled with polymer foam

Wood and metal toys

- Paint is peeling

Synthetic leather

- Made of PVC

Electronic items

- Broken with visible parts and soldering

Outdoor environment

Aim for natural environments, including vegetation and fall protection options, while avoiding toxic or allergenic plants.

Outdoor toys

Only use purpose designed play equipment (avoid old tyres, treated wood etc) or safe natural materials (e.g. branches).

Maintenance and care

Avoid pesticides, herbicides and harsh cleaning chemicals (including antimicrobials and heavily fragranced products).

WHAT POLICY MAKERS CAN DO

Governments can support childcare centres and preschools to transition to safer practices and products through financial assistance, regulation and updated standards and guidelines. Recommendations for some updates to existing safety guidelines are suggested below.

Guidance and standards for safer childcare

Safer toys and children's products

Eliminating harmful chemicals in toys and children's products

It is recommended that Australia follow the European Union (EU) in prohibiting carcinogenic and mutagenic substances or substances toxic for reproduction (CRM) in toys.[7] It is also recommended that Australia follow the EU in extending these restrictions to chemicals that are especially harmful to children, including endocrine disruptors or chemicals affecting the respiratory system, chemicals that are toxic to specific organs or are persistent, bioaccumulative, and toxic, or contain any per- and polyfluorinated alkil substances (PFASs).

It is also recommended that the use of recycled plastics and other materials is restricted in children's products. Chemical contaminants from recycled materials cannot yet be adequately traced, and there have been multiple cases of hazardous substances being recycled into children's products, including toys.[8]

Consumer confidence and information

Three measures from the 2024 European Union draft rules on toy safety are recommended to be adopted in Australia to improve consumer access to information:

1. A digital product passport detailing compliance with the relevant safety rules. This will enhance the traceability of toys and make market surveillance and customs checks on imports simpler and more efficient.
2. Provision of easy access to safety information and warnings through mechanisms such as QR codes for consumers.
3. Labelling requirements such as the CE label, which provide clear guidance to consumers regarding product safety.

Childcare environment

Develop specific standards and guidelines related to the prevention of exposure of children to hazardous substances in childcare and preschool settings. These standards could be embedded within or complement existing state-based Child Safe Standards.

LABELS AND CERTIFICATIONS

There are some labels and certifications to look out for that may help guide safe product choices. Many of these labels do not originate in Australia, but can be commonly found on products in the Australian market.

Marking of plastics

Types of plastics are often marked using a resin identification code inside a triangle.

PET

Polyethylene terephthalate

PE-HD

High-density polyethylene

PVC

Polyvinyl chloride

PE-LD

Low-density polyethylene

PP

Polypropylene

PS

Polystyrene

Other plastics

Labels

The glass-and-fork mark shows that a product is approved for use with food.

The CE mark shows that a product meets EU requirements. Those requirements differ between product groups. CE-marked toys meet the requirements laid down in the EU Toy Safety Directive, which places particularly high demands on toys intended for small children.

Certifications

GOTS, the Global Organic Textile Standard, is an extensive eco-labelling scheme for textiles. It imposes strict environmental requirements throughout the supply chain, from cultivation to manufacturing and distribution of textiles. It also requires social responsibility.

Oeko-tex requires that a textile product must not contain certain harmful substances. The label relates only to the final product.

Australian Certified Organic provides certification services to operators from all sectors of the organic industry. Certification ensures compliance with national production standards and allows trace back of all products to their origin.

Nonprofit organizations Center for Environmental Health (CEH) and Clean Production Action (CPA) have developed the GreenScreen Certified Standard for Food Service Ware. The certification program sets a new safety standard for everyday items like disposable plates and bowls that do not contain per- and polyfluoroalkyl substances (PFAS) plus thousands of other chemicals of concern.

The Sustainable Furnishings Council (SFC) Member Seal is a label representing those companies which have made a public and verifiable commitment to sustainability and to improvement. These companies are involved in the home furnishings industry. The Exemplary status is voluntary —all members make a public & verifiable commitment to sustainability, to transparency, and to continuous improvement.

The U.S. EPA Safer Choice program advances EPA's mission to protect human health and the environment. The program uses EPA's chemical knowledge and resources to carefully evaluate products and to label only those that have met the program's leadership standard.

Sustainable Materials Rating Technology or SMaRT, is the consensus sustainable products standard and label for building products, fabric, apparel, textile & flooring, covering over 80% of the world's products with environmental, social, & economic criteria.

Good Environmental Choice Australia (GECA) runs Australia's only independent, not-for-profit, multi-sector ecolabelling program and is the only Australian member of the Global Ecolabelling Network (GEN).

Global Green Tag® is a third party, green product rating and certification system, underpinned by scientific and Life Cycle Assessment (LCA) processes.

FURTHER READING

European Guide to toxic free kitchens and food
https://thinkbefore.eu/wp-content/uploads/2020/07/brochure_LKM_ENG-1.pdf

Green Science Policy Institute consumer guide
https://greensciencepolicy.org/resources/consumer-resources/

Green Science Policy Institute guide to the Six Classes of Harmful Chemicals to avoid
https://greensciencepolicy.org/harmful-chemicals/

Fact Sheet: toxic flame retardants in nap mats
https://toxicfreefuture.org/wp-content/uploads/2018/04/Dont-Sleep-On-It-4-page-factsheet-web-version.pdf

Guide to safer playground surfacing
https://www.turi.org/publications/playground-surfacing-choosing-safer-materials-for-childrens-health-and-the-environment/

Fact Sheet: artificial turf
https://www.turi.org/publications/artificial-turf/

Toxic Chemicals in Children's Products: Guide to Chemicals of Concern
https://guides.turi.org/c.php?g=786660&p=5632539

Report: Chemical management for consumer products: industry landscape and recommendations for progress
https://www.uts.edu.au/sites/default/files/2021-04/UTS_Chemical_Sustainability_report_2020_WEB.pdf

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3. Hudson, G., Miller, G. G., & Seikel, K. (2014). Regulations, Policies, and Guidelines Addressing Environmental Exposures in Early Learning Environments: A Review. *Journal of Environmental Health, 76*(7), 24–35. http://www.jstor.org/stable/26329988
4. Ibid
5. Much of the information in these lists is inspired by the European Union's NonHazCity "Guidelines for Toxin Free Preschools", which can be found at https://thinkbefore.eu/wp-content/uploads/2020/07/Toxin-free-preschool.pdf
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If you would like to learn more about the Institute for Sustainable Futures and our research, or discuss potential partnerships for future projects, please contact us at:

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