

# CLIMATE CHANGE

## Data coverage

2006 data covers The Co-operative, former United Co-operatives, former Somerfield and former Britannia Building Society. Transport data was unavailable for former United Co-operatives and former Somerfield for 2006, necessitating the use of 2007 data as a proxy. Refrigerant data covers The Co-operative, former United Co-operatives and former Somerfield Food stores and distribution centres.

2007 data covers The Co-operative, former United Co-operatives, former Somerfield and former Britannia Building Society. Company and private car data was unavailable for former Somerfield for 2007, necessitating the use of 2009 data as a proxy. Refrigerant data covers The Co-operative, former United Co-operatives and former Somerfield Food stores and distribution centres.

2008 data covers The Co-operative, former Somerfield and former Britannia Building Society. Company and private car data was unavailable for former Somerfield for 2008, necessitating the use of 2009 data as a proxy. Refrigerant data covers The Co-operative and former Somerfield Food stores and distribution centres.

2009 data covers The Co-operative, former Somerfield and former Britannia Building Society. Refrigerant data covers The Co-operative and former Somerfield Food stores and distribution centres.

All 2010 data covers the integrated organisations.

## Energy

### Direct renewable energy consumption 2010

	MWh	GigaJoules
Solar Tower (Manchester)	163	586
Torrs Hydro (New Mills)	127	459
Settle Hydro (Settle, Yorkshire)	61	218
<b>Total</b>	<b>351</b>	<b>1,263</b>

### Total energy consumption – renewable/non-renewable sources 2010

	MWh	GigaJoules
Total renewable electricity consumption	1,141,355	4,108,877
Non-renewable electricity consumption	21,016	75,659
Gas consumption	259,575	934,471
<b>Total energy consumption</b>	<b>1,421,946</b>	<b>5,119,007</b>

	%
Renewable energy consumption	80
Non-renewable energy consumption	20

## Cooling systems

### The Co-operative Food: refrigerant gas leaks (tonnes)

Year	The Co-operative (tonnes)	Former Somerfield (tonnes)	Total (tonnes)
2005	40.5	67	<b>107.5</b>
2006	36.9	70.3	<b>107.2</b>
2007	41.3	60.4	<b>101.7</b>
2008	33.4	56	<b>89.4</b>
2009	25.2	37.7	<b>62.9</b>
2010	40.6		<b>40.6</b>

## Indirect greenhouse gas emissions

As described in the full Report (page 67), in addition to the gross direct greenhouse gas emissions reported, it is recognised that further GHG emissions arise from sources which can be described as 'indirect' (Greenhouse Gas Protocol Scope 3<sup>1</sup>).

Guidance for measurement and reporting of such emissions is still in its formative stages, however work to estimate these emissions has been initiated in 2010 in a number of areas, as outlined in the table below. It is acknowledged that total indirect emissions are likely to be far larger than this and accounting systems will continue to be developed.

Business area	Description	Annual emissions
The Co-operative Travel	Customers' flights (less customer offsets sold through The Co-operative Travel stores) <sup>2</sup> .	1,085,506 tCO <sub>2</sub> e
The Co-operative Food	Customer travel to store emissions <sup>3</sup> .	288,262 tCO <sub>2</sub> e
Head office	Employee commuting to Manchester head office (see Green Travel, page 66).	Per head office employee: 1.2 tCO <sub>2</sub> e Total: 7,620 tCO <sub>2</sub> e
The Co-operative Group	Waste disposal through landfill and recycling across the business <sup>4</sup> (see Waste and Packaging, pages 74–77).	Waste to landfill: 3,842 tCO <sub>2</sub> e Waste recycled: -18,694 tCO <sub>2</sub> e Total: -14,852 tCO <sub>2</sub> e
The Co-operative Bank	Third-party renewable energy projects made possible by Bank finance <sup>5</sup> .	-138,733 tCO <sub>2</sub> e
The Co-operative Group	Green Schools <sup>6</sup> (see Green Energy for Schools and Walking Buses, page 57).	Green Energy for Schools: -282 tCO <sub>2</sub> e Walking Buses: -109 tCO <sub>2</sub> e Total: -391 tCO <sub>2</sub> e
The Co-operative Group	Direct water consumption from UK activities <sup>7</sup> .	Supply: 603 tCO <sub>2</sub> e Treatment: 1,507 tCO <sub>2</sub> e Total: 2,106 tCO <sub>2</sub> e
<b>Total</b>	<b>Estimated indirect emissions.</b>	<b>1,229,521 tCO<sub>2</sub>e</b>

# CLIMATE CHANGE

## Other significant air emissions

NO <sub>x</sub> , SO <sub>x</sub> and other significant air emissions – energy (tonnes)				
	SO <sub>x</sub>	NO <sub>x</sub>	Particulates	VOCs
2006	1,342	1,269	23	24
2007	1,086	1,028	19	20
2008	1,045	990	18	19
2009	655	621	11	12
2010	34	38	1	3
% change on 2006	-97%	-97%	-96%	-89%

Breakdown of NO <sub>x</sub> , SO <sub>x</sub> and other significant air emissions 2010 – energy (tonnes)				
	SO <sub>x</sub>	NO <sub>x</sub>	Particulates	VOCs
Electricity – hydro/wind	nil	nil	nil	nil
Electricity (brown)	34	32	1	1
Gas	nil	6	0	2
<b>Total</b>	<b>34</b>	<b>38</b>	<b>1</b>	<b>3</b>

NO <sub>x</sub> , SO <sub>x</sub> and other significant air emissions – transport (tonnes)				
	SO <sub>x</sub>	NO <sub>x</sub>	Particulates	VOCs
2008	5	1,214	35	108
2009	6	1,057	34	95
2010	6	1,061	34	95
% change on 2008	25%	-13%	-4%	-12%

Breakdown of NO <sub>x</sub> , SO <sub>x</sub> and other significant air emissions 2010 – transport (tonnes)				
	SO <sub>x</sub>	NO <sub>x</sub>	Particulates	VOCs
Distribution	2	1,035	33	93
Business travel	4	26	1	3
<b>Total</b>	<b>6</b>	<b>1,061</b>	<b>34</b>	<b>95</b>

Supplementary data and protocols

## WASTE AND PACKAGING

CFS waste figures <sup>9</sup> (tonnes)			
Year	Waste arising	Waste reused/ recycled	General waste disposed
2006	2,598	1,772	826
2007	2,747	1,906	891
2008	2,893	2,037	856
2009	2,378	1,601	777
2010	2,456	1,507	713

### Miscellaneous recycled waste

Additional recycling to that sorted by The Co-operative recycling centre took place in 2010, including the recycling of:

- CFS: 943 tonnes of various streams, including paper, cardboard, cups, cans, bottles, furniture, toner and fluorescent tubes.
- The Co-operative Travel: 897 tonnes of travel brochures, paper, cardboard and plastic.
- The Co-operative Funeralcare: 644 tonnes of wood, 113 tonnes of dry mixed recycling, including paper, card and plastic and 11,529 litres of solvent.
- The Co-operative Pharmacy: 480 tonnes of dry mixed recycling.
- The Co-operative Electrical<sup>9</sup>: 258 tonnes of cardboard, plastic, paper and wood.
- The Co-operative Motor Group: 225 tonnes of tyres, oil and paints and 73 tonnes of dry mixed recycling.
- The Co-operative Food: 160 tonnes of cooking oil and 141 tonnes of dry mixed recycling.
- The Co-operative Farms: 154 tonnes of plastic sacks, containers, cardboard, oil and scrap metal.
- The Co-operative Clothing: 44 tonnes of cardboard and 17 tonnes of dry mixed recycling.
- Sunwin Cash in Transit: 34 tonnes of dry mixed recycling.
- Head office buildings: 30 tonnes of furniture and dry mixed recycling.
- The Co-operative Legal Services: 28 tonnes of paper.

Waste sent to landfill (tonnes)	
Business	Tonnes
The Co-operative Food	39,996 <sup>10</sup>
The Co-operative Pharmacy	2,374 <sup>11</sup>
The Co-operative Funeralcare	1,491 <sup>12</sup>
The Co-operative Farms	1,142
CFS	1,020
Manchester head office complex	246
The Co-operative Electrical	191
The Co-operative Motor Group	146
The Co-operative Travel	122
Sunwin Cash in Transit	77
The Co-operative Clothing	7
The Co-operative Legal Services	4

Supplementary data  
and protocols

# BIODIVERSITY

## List of MSC-certified products

Breaded Scottish haddock fillets; chunky breaded line-caught Norwegian cod; eat-in Scottish smoked haddock Mornay; eat-in wild Alaskan salmon & watercress in cheese sauce; lightly dusted Scottish haddock fillets; line-caught Norwegian battered cod portions; line-caught Norwegian battered haddock portions; line-caught Norwegian breaded cod portions; line-caught Norwegian breaded haddock portions; line-caught Norwegian cod fishcakes; mackerel fillets in brine; mackerel fillets in sunflower oil; mackerel fillets in tomato sauce; pink salmon fillets; canned pink salmon 105g, 213g, 418g; red salmon 105g, 213g, 418g; ready-to-eat peppered smoked mackerel; ready-to-eat smoked mackerel; salmon and cucumber; smoked kippers; smoked Scottish haddock fishcakes; Scottish smoked haddock and salmon with cheese centre fishcakes; smoked Scottish haddock Florentine, smoked Scottish haddock melting middle fishcakes.

# CHEMICALS

## Pesticides reduction

### Development of Pesticides Policy

In 2001, The Co-operative Food worked with suppliers to draw up a list of pesticides where use would be banned (approximately 20) or restricted (approximately 30). In 2004, The Co-operative Food established a Pesticide Advisory Group comprising individuals from The Co-operative Food, The Co-operative Farms, expert NGOs and the UK Government's Advisory Committee on Pesticides, with a view to the further development of the Pesticides Policy. A 'hazard framework' was developed to guide the future acceptability, or otherwise, of pesticides<sup>13</sup>. During 2004 and 2005, over 800 chemicals were analysed using the framework, and, in summer 2005, a list of problematic pesticides was identified for potential

prohibition and monitoring. During 2006, consultation with suppliers sought to establish whether a commercial need existed for the use of these pesticides, and the new Pesticides Policy, containing 24 banned, 98 prohibited and 322 monitored pesticides, was formalised at the end of 2007<sup>14</sup>.

### The Co-operative Food: list of chemicals for priority action

The table below gives details of the chemicals of concern for The Co-operative Food along with their timetable for removal and details of issues encountered. The list is reviewed and new chemicals added as evidence that may provide cause for concern emerges. The Co-operative Food continues to use the precautionary principle in its approach to the use of chemicals in both its food and non-food products.

Chemical	Proscription source	Noted for action	Current status	Potential uses	Progress
Alkylphenols and their derivatives	OSPAR <sup>15</sup>	2001	Removal complete pre-2001	As a surfactant in industrial detergents, paints and some cosmetics. Possibility of use in paints and garden chemicals and as antistatic agents in some plastics.	No alkylphenols or derivatives are found in any own-brand liquid products.
Alkyltins	OSPAR, IMO <sup>16</sup> , Dangerous Substances Marketing & Use Directive <sup>17</sup>	2001	Removal complete pre-2001	Preservatives, antibacterial agents, catalysts – have been used in shoe insoles.	Removed from all own-brand products.
Asbestos	Dangerous Substances Marketing & Use Directive, IARC: Group <sup>18</sup>	2001	Removal complete pre-2001	Wide range of manufactured goods, mostly in building materials (e.g., roofing shingles, ceiling and floor tiles, paper products and cement products), friction products (vehicle clutch, brake and transmission parts) heat resistant fabrics, packaging gaskets, and coatings.	Never used in own-brand products.
Benzene	European Chemicals Bureau <sup>19</sup> , Dangerous Substances Marketing & Use Directive, IARC: Group	2001	Removal complete pre-2001	Used as a solvent in industrial paints, rubber cements, dyes, detergents, adhesives, paint removers, degreasing agents, production of artificial leather and of rubber goods, and in the shoe industry. Benzene vapours have also been detected from such products as carpet glue, textured carpet, liquid detergent and furniture wax. Benzene is a natural component of crude oil, petrol and cigarette smoke.	Removed from all own-brand products, alternatives are readily available.
Benzophenone-3, benzophenone-4	SCCP <sup>20</sup>	1999	Removal complete in 2001	Protect against colour fade in liquid products.	Removed from all own-brand products, due to concern that these might be oestrogenic.
Bisphenol A	OSPAR, Plastic Materials and Articles in Contact with Food Regulations <sup>21</sup>	2001	Ongoing	In can lacquers and rubber seals on food jars.	Continue to lobby packaging manufacturers to identify replacements.
		2001	Ongoing	Main component of polycarbonate plastic.	Replace food contact polycarbonate with a suitable alternative.
		2001	Removal complete in 2004	Used for some baby bottles (branded products only, Co-operative does not sell an own-brand bottle).	Polycarbonate bottles replaced with a suitable alternative (polypropylene).

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Chemical	Proscription source	Noted for action	Current status	Potential uses	Progress
Brominated flame retardants	OSPAR	2001	Removal complete in 2002	As flame retardant in furniture and furnishings, and clothing.	Removed from all own-brand products with application of Oekotex Standard <sup>5</sup> to own-brand textiles.
Cadmium	OSPAR, RoHS Directive <sup>22</sup> , Dangerous Substances Marketing & Use Directive	2001	Removal complete pre-2001	Numerous including batteries, rechargeable power tools, photography, printing, cathode ray tubes (TVs and computer monitors), non-stick coatings, pigments for plastics, paints and enamels and fireworks.	Removed from all own-brand (e.g. Christmas lights) products as specified in the RoHS directive.
Chlorbenzilate	PIC <sup>23</sup>	2001	Ongoing residue monitoring of fresh fruit and vegetables*	Pesticide (insecticide).	Periodic reporting of pesticide residue results on Co-operative website. Where a residue above the maximum residue limit (MRL) is detected sourcing from the specific supplier/ grower temporarily ceases, pending the conclusions of a full investigation**.
Chlorine gas bleaching of paper products	Environmental NGOs <sup>24</sup> , Now IPPC Directive <sup>25</sup>	Pre-1989	Removal complete pre-2001	Facial tissue, kitchen towel, bathroom tissue, disposable plates, baking cases, etc	All own-brand products are bleached using Elemental Chlorine Free (ECF) or Totally Chlorine Free (TCF) technology. Own-brand Coffee Filter Papers are unbleached.
Colours – Soluble azo dyes that can originate carcinogens	Dangerous Substances Marketing & Use Directive	2001	Removal complete pre-2001	Textiles	Removed from all own-brand products with application of Oekotex Standard <sup>5</sup> to own-brand textiles.
Colours – Associated with hyperactivity	Hyperactive Children's Support Group (HACSG) <sup>26</sup>	2001	With permission	Wide range of foods and ingestibles (eg toothpaste).	Colours on the Co-operative prohibited list have been removed from all own-brand foods and own-brand toothpastes. E153 (Carbon Black) and E160b (Annatto) are still used in a small number of food products (with permission). These are clearly labelled and alternatives continue to be sought.
1,2-dibromoethane (EDB)	PIC	2001	Removal complete pre-2001	Lead antiknock agents (e.g. lead tetraethyl) in petrol, soil, grain and fruit fumigant. It is used as an intermediate in chemical syntheses and in manufacturing as a solvent for resins, waxes, gums and dyes.	Removed from all own-brand products.
Dodecylphenol	CSF <sup>27</sup>	Pre-1989	Removal complete pre-2001	As a surfactant in industrial detergents, paints and some cosmetics. Possibility of use in paints and garden chemicals.	Removed from all own-brand products.

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EDTA and similar materials	Environmental NGOs	1998	Ongoing	Widely used in preservative and anti-bacterial systems.	Where EDTA is indicated as an ingredient in non-food products, its use should be questioned and its removal or replacement discussed. It has poor biodegradability and is thought to mobilise heavy metals (such as lead) in the environment. A number of biodegradable alternatives are now available. There are still a few foam baths and shampoos in own-brand range where a small amount of EDTA is present (maximum of 0.02% in glycerin soap).
Formaldehyde (Formalin)	IARC: Group	2005	Removal complete	Household cleaning and toiletries products, plastics (phenol formaldehyde, urea formaldehyde) lacquers, textile finishes, wooden materials and furniture, wood adhesives and moulding compounds used in electronics.	All cosmetic products are free, household products should be free by end 2007, Removal completed February 2008.
Hexachlorohexane isomers (HCH)	OSPAR, PIC	2001	Ongoing residue monitoring of fresh fruit and vegetables*	Pesticide (insecticide), wood preserver.	Periodic reporting of pesticide residue results on Co-operative website**.
1,2,3,4,5,5-Hexachloro-1,3-cyclopentadiene	CSF	2001	Ongoing residue monitoring of fresh fruit and vegetables*	Manufacture of pesticides and flame-retardants. Unlikely to be directly used in retail products.	Periodic reporting of pesticide residue results on Co-operative website**.
Hexamethyldisiloxane	OSPAR	2001	Removal complete pre-2001	Household cleaning and toiletries products.	Removed from all own-brand products.
Lead and organic lead compounds	OSPAR, RoHS Directive, IARC: Group 2A	2001	Removal complete pre-2001	Numerous. PVC, oil based paints, glass, ceramic glazes, solder.	Removed from all own-brand products as specified in the RoHS directive.
		2001	With permission	Lead acid batteries.	These batteries have been removed from all own-brand products as specified in the RoHS directive.
Mercury and organic mercury compounds	OSPAR, RoHS Directive	2001	Removal complete pre-2001	Numerous including batteries, barometers, thermometers, electrical and electronic items, fluorescent lighting.	Removed from all own-brand products as specified in the RoHS directive.
Methyldibromo Glutaronitrile	SCCP	2001	Removal complete pre-2001	Cosmetic preservative, dishwashing liquid, household cleaning products, detergent products, car care products, paints and wax/polishing products for floors.	Removed from all own-brand products. SCCP published opinion with the conclusion that no safe level has been established for this material and that therefore this material should not be present in cosmetic products.

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Chemical	Proscription source	Noted for action	Current status	Potential uses	Progress
Methyl Eugenol	IFRA <sup>28</sup>	2001	Ongoing	Perfume ingredients.	Progressive removal as perfume manufacturers are briefed to remove chemical from new products and reformulations.
Nitromusks (musk xylene, muskene, musk ketone, musk tibetine). (See also polycyclic musks)	OSPAR	2001	Removal complete in 2004	Perfume ingredients.	Removed from all own-brand products.
Organic tin compounds	OSPAR, IMO, CSF	2001	Ongoing residue monitoring of fresh fruit and vegetables*	Wood preservers, plastic stabilisers and antifungicide in paint. Possibility of residue in some nappies.	Periodic reporting of pesticide residue results on Co-operative website**.
Parabens	WEN <sup>29</sup>	2005	Scheduled for removal	As a preservative in toiletries and food.	Program under way to remove. Removal of parabens will be difficult because the number of alternatives suitable for leave on applications is limited.
PFOS (Perfluorooctane sulfonate), PFOA (Perfluorooctanoic acid)	OSPAR	2001	Scheduled for removal	Used in the production of Teflon for non-stick cookware and bakeware.	Removed from bakeware in 2004, alternatives sought for non-stick pans.
Polycyclic musks (acetyl hexmethylindan, acetyl hexmethyl tetralin, acetylisopropyltetramethylindane, acetyl dimethyl tertbutylindane, hexahydro-hexamethyl-cyclopenta-benzopyran) (See also nitromusks)	Environmental NGOs	2001	Removal complete in 2005	Perfume ingredients.	Removed from all own-brand products.
Phthalates – Diethyl phthalate (DEP)	Environmental NGOs	2001	Removal complete in 2005	Used in perfumes. May be found in other perfume sources, e.g. perfumed candles, pot pourri.	Removed from all own-brand products.
Phthalates – Dibutyl phthalate (DBP), diethylhexylphthalate (DEHP) & Benzyl butyl phthalate(BBP)	OSPAR	2001	Ongoing residue monitoring of fresh fruit and vegetables*	Plasticiser in certain PVC formulations.	Very little PVC is used in Co-operative Food packaging c1% and is only allowed with express permission.
Pentachlorophenol and certain formulations of methyl-parathion.	OSPAR, Dangerous Substances Marketing & Use Directive	2001	Ongoing residue monitoring of fresh fruit and vegetables*	Wood preserver.	Periodic reporting of pesticide residue results on Co-operative website**.
Phenol, 4,4'-(1-methylethylidene) bis 2,6-dibromo-(tetrabromobisphenol A) (TBBP-A)	OSPAR	2001	Removal complete pre-2001	Flame retardent and corrosion resistance additive for plastics. Electronics.	Removed from all own-brand products.
Polyaromatic hydrocarbons (PAH)	OSPAR	2001	Removal complete pre-2001	PVC additives, dyes, surfactants and dispersants, tanning agents, insecticides, carbonless copy paper and moth repellent, pigments, resins, pesticides and synthetic rubbers.	Removed from all own-brand products.
Polybrominated biphenyls (PBB)/ hexabromobiphenyls	PIC	2001	Removal complete pre-2001	Flame retardants in moulded thermoplastics for electrical and electronic equipment.	Removed from all own-brand products.

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Chemical	Proscription source	Noted for action	Current status	Potential uses	Progress
Polychlorinated biphenyls (PCBs)	OSPAR, IARC: Group 2A	2001	Removal complete pre-2001	Lubricating and cutting oils, plasticisers in paints, carbonless copying paper, adhesives, sealants, and plastics.	Removed from all own-brand products.
Polychlorinated dibenzodioxins (PCDD) and Polychlorinated dibenzofurans (PCDF) (dioxins and furans)	OSPAR	2001	Ongoing	Produced in the manufacture of a number of products including pesticides, PVC, surfactants. Evolved in poorly controlled incineration of a number of materials including burning of wood and PVC.	Very little PVC is used in Co-operative Food packaging c1% and is only allowed with express permission.
Polychlorinated terphenyls (PCT)	PIC	2001	Removal complete pre-2001	Lubricating and cutting oils, plasticisers in paints, carbonless copying paper, adhesives, sealants, and plastics.	Removed from all own-brand products.
Polyvinylchloride (PVC)	Environmental NGOs	2001	With permission	PVC should not be used for packaging material. Its is questioned and alternatives requested. Concerns about release of dioxins during disposal.	Very little PVC is used in Co-operative Food packaging c1% and is only allowed with express permission.
Short chained chlorinated paraffins (SCCP)	OSPAR	2001	Removal complete pre-2001	Flame-retardants in rubber, plastics and textiles, and as plasticisers in paints, adhesives, sealants and other coatings.	Removed from all own-brand products.
1,2,3-Trichlorobenzene and 1,3,5-trichlorobenzene	OSPAR	2001	Ongoing residue monitoring of fresh fruit and vegetables*	Pesticide. Dye carrier in manufacture of polyester.	Periodic reporting of pesticide residue results on Co-operative website**.
Tris (2,3-dibromopropyl) phosphate	PIC9, IARC: Group 2A	2001	Removal complete pre-2001	Flame retardant.	Removed from all own-brand products.
Triclosan	Environmental NGOs	2001	Removal complete in 2002	Anti-microbial, antibacterial household cleaners and toiletries including handwash, deodorants, bodysprays, shower gels, etc. Used as an antibacterial in plastic articles under the trade name Microban™.	Removed from all own-brand products.
4,4'-diaminodiphenylmethane	ECHA SVHC <sup>30</sup>	2009	Not used in own-brand products, will continue to monitor as part of REACH requirements	Curing agent in epoxy resins.	Not used in own-brand products
Cobalt dichloride	ECHA SVHC	2009	Not used in own-brand products, will continue to monitor as part of REACH requirements	Detection of moisture in drying agents such as silica gel.	Not used in own-brand products
Sodium dichromate	ECHA SVHC	2009	Not used in own-brand products, will continue to monitor as part of REACH requirements	Used in metal finishing, pigments, ceramics and textiles.	Not used in own-brand products
Arsenic and derivatives	ECHA SVHC	2009	Not used in own-brand products, will continue to monitor as part of REACH requirements	Used in the dyeing industry, metallurgy, manufacture of glass, wood preservatives and electronic equipment.	Not used in own-brand products
Anthracene oil	ECHA SVHC	2010	Not used in own-brand products, will continue to monitor as part of REACH requirements	Anthracene and carbon black, reducing agents in blast furnaces, bunker fuel.	Not used in own-brand products
Anthracene oil, anthracene paste, distn. lights	ECHA SVHC	2010	Not used in own-brand products, will continue to monitor as part of REACH requirements		Not used in own-brand products

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Chemical	Proscription source	Noted for action	Current status	Potential uses	Progress
Anthracene oil, anthracene paste, anthracene fraction	ECHA SVHC	2010	Not used in own-brand products, will continue to monitor as part of REACH requirements		Not used in own-brand products
Anthracene oil, anthracene-low	ECHA SVHC	2010	Not used in own-brand products, will continue to monitor as part of REACH requirements		Not used in own-brand products
Anthracene oil, anthracene paste	ECHA SVHC	2010	Not used in own-brand products, will continue to monitor as part of REACH requirements		Removed from all own-brand products.
Pitch, coal tar (heated to high temperature)	ECHA SVHC	2010	Not used in own-brand products, will continue to monitor as part of REACH requirements	Electrodes, heavy duty corrosion protection, special purpose paving, manufacture of other substances and the production of clay targets.	Not used in own-brand products
Aluminosilicate, Refractory Ceramic Fibres	ECHA SVHC	2010	Not used in own-brand products, will continue to monitor as part of REACH requirements	High-temperature insulation, fire protection.	Not used in own-brand products
Zirconia Aluminosilicate, Refractory Ceramic Fibres	ECHA SVHC	2010	Not in co-operative branded products, will continue to monitor as part of REACH requirements	High-temperature insulation, fire protection.	Not used in own-brand products
2,4-Dinitrotoluene	ECHA SVHC	2010	Not used in own-brand products, will continue to monitor as part of REACH requirements	Toluene diisocyanate, gelatinising-plasticising agent for the manufacture of explosive mixtures (e.g. for airbags in cars).	Not used in own-brand products
Diisobutyl phthalate	ECHA SVHC	2010	Not used in own-brand products, will continue to monitor as part of REACH requirements	Plasticiser for nitrocellulose, cellulose ether, polyacrylate and polyacetate dispersions, a gelling aid in combination with other plasticisers, which are widely used for plastics, lacquers, adhesives, explosive material and nail polish.	Not used in own-brand products
Lead chromate	ECHA SVHC	2010	Not used in own-brand products, will continue to monitor as part of REACH requirements	Manufacturing pigments and dyes, pigment or coating agent in industrial and maritime paint products or for embalming/restoring of art products, detergents and bleaches, photosensitive materials and for the manufacture of pyrotechnic powder.	Not used in own-brand products
Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	ECHA SVHC	2010	Not used in own-brand products, will continue to monitor as part of REACH requirements	Colouring, painting and coating agent in sectors such as the rubber, plastic and paints, coatings and varnishes industries; production of agricultural equipment, vehicles and aircraft as well as road and airstrip painting.	Not used in own-brand products
Lead sulfochromate yellow (C.I. Pigment Yellow 34)	ECHA SVHC	2010	Not used in own-brand products, will continue to monitor as part of REACH requirements	Colouring, painting and coating agent in sectors such as the rubber, plastic and paints, coatings and varnishes industries; production of agricultural equipment, vehicles and aircraft as well as road and airstrip painting; camouflage or ammunition marking in the defence area.	Not used in own-brand products

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tris(2-chloroethyl)phosphate	ECHA SVHC	2010	Not used in own-brand products, will continue to monitor as part of REACH requirements	Additive plasticiser and viscosity regulator with flame-retarding properties for acrylic resins, polyurethane, polyvinyl chloride and other polymers; adhesives, coatings, flame resistant paints and varnishes; the furniture, the textile and the building industry.	Not used in own-brand products
Acrylamide	ECHA SVHC	2010	Not used in own-brand products, will continue to monitor as part of REACH requirements	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.	Removed from all own-brand products.
Trichloroethylene	ECHA SVHC	2010	Not in co-operative branded products, will continue to monitor as part of REACH requirements	Trichloroethylene 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.	Not used in own-brand products
Boric acid	ECHA SVHC	2010	Not used in own-brand products, will continue to monitor as part of REACH requirements	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.	Not used in own-brand products
Disodium tetraborate, anhydrous	ECHA SVHC	2010	Not used in own-brand products, will continue to monitor as part of REACH requirements	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.	Not used in own-brand products
Tetraboron disodium heptaoxide, hydrate	ECHA SVHC	2010	Not used in own-brand products, will continue to monitor as part of REACH requirements		Removed from all own-brand products.
Sodium chromate	ECHA SVHC	2010	Not used in own-brand products, will continue to monitor as part of REACH requirements	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 clear.	Not used in own-brand products
Potassium chromate	ECHA SVHC	2010	Not used in own-brand products, will continue to monitor as part of REACH requirements	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.	Not used in own-brand products

## CHEMICALS

Chemical	Proscription source	Noted for action	Current status	Potential uses	Progress
Ammonium dichromate	ECHA SVHC	2010	Not used in own-brand products, will continue to monitor as part of REACH requirements	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.	Not used in own-brand products
Potassium dichromate	ECHA SVHC	2010	Not used in own-brand products, will continue to monitor as part of REACH requirements	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.	Not used in own-brand products

## Examples of decisions taken on chemicals listed for priority action

Chemical	Issue	Action taken
Perfluorooctanoic acid (PFOA)	A key processing agent in making non-stick and stain-resistant materials. Bioaccumulative and has been linked to reproductive problems <sup>31</sup> .	Removed from all non-stick bakeware in 2004.
Perfluorooctane sulphonates (PFOSs)	Persistent in the environment, bioaccumulative in the fatty tissue of living organisms and toxic to humans and wildlife <sup>32</sup> . Present in polishes, paints and general-use cleaning fluids.	In 2008, removed from all of The Co-operative Food's own-brand products.
Formaldehyde	Carcinogenic to humans <sup>33</sup> . Used in household products, such as washing-up liquid, as a preservative.	Removed from all own-brand household products in January 2008.
Phthalates – Diethyl phthalate (DEP), dibutyl phthalate (DBP) and diethylhexylphthalate (DEHP)	Suspected of disrupting the body's hormone system <sup>34</sup> . DBP and DEHP are used as plasticisers in plastics and DEP is used in perfumes.	Removed from own-brand cling film and children's toys in 2003. DEP has not been used in own-brand products since 2005.
Triclosan, often marketed under the name Microban®	An antibacterial agent used in cleaning agents and toothpastes. Concerns exist about bioaccumulation <sup>35</sup> and the development of antibiotic resistance <sup>36</sup> .	Removed from all own-brand products in 2002.
PVC (polyvinylchloride)	A plastic with a wide variety of uses. If burned, can release toxic chemicals, including dioxins. These chemicals can bioaccumulate and contribute to problems in development, reproduction, growth and behaviour <sup>37</sup> .	PVC is thought to account for only 1% of own-brand packaging, and is only used by permission where no alternative exists.
Bisphenol A (BPA)	Used in the manufacture of the plastic polycarbonate and as a can lining and a seal for jars. Believed to be a hormone disruptor <sup>38</sup> .	Since March 2004, all baby bottles sold have utilised polypropylene. To date, a solution for can linings and jar seals has not progressed.
Parabens	Widely used as a preservative in cosmetics and toiletries. Suspected to be hormone disruptors and carcinogens <sup>39</sup> .	As of 2005, progressive phase-out has commenced; however, currently, there are no suitable alternatives for 'leave-on' applications.
Brominated flame-retardants, specifically polybrominated diphenyl ethers (PBDEs)	Some specifically polybrominated diphenyl ethers (PBDEs) are known to bioaccumulate <sup>40</sup> .	Removed from all own-brand textiles with the application of the Oekotex Standard for human ecological safety of textiles.
Artificial perfumes	Used in a variety of household products. The two main groups, nitro musks and polycyclic musks, have been shown to be persistent and bioaccumulative <sup>41</sup> .	Nitro musks were removed from own-brand products in 2004 and polycyclic musks were removed in 2005.

## CHEMICALS

## Accompanying notes

- 1 <http://www.ghgprotocol.org/calculation-tools/faq> The GHG Protocol categorises direct and indirect emissions into three broad scopes: Scope 1: All direct GHG emissions. Scope 2: Indirect GHG emissions from consumption of purchased electricity, heat or steam. Scope 3: Other indirect emissions, such as the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the reporting entity, electricity-related activities (e.g. T&D losses) not covered in Scope 2, outsourced activities, waste disposal, etc.
- 2 Flight emissions include correction for radiative forcing to allow for non-carbon dioxide climate change impact of aviation.
- 3 Calculated based on independent research commissioned by The Co-operative in summer 2010; looking at distance and mode of travel of supermarket customers.
- 4 2010 Guidelines to Defra/DECC's GHG Conversion Factors for Company Reporting.
- 5 Displaced electricity factor of 0.43kgCO<sub>2</sub>/kWh. Limited to wind and hydropower projects only due to variability of emissions savings from energy efficiency projects.
- 6 Displaced electricity factor of 0.43kgCO<sub>2</sub>/kWh. Limited to wind and solar power projects only due to variability of savings from energy efficiency projects.
- 7 Includes water consumption from metered sites, excluding The Co-operative Farms' sites.
- 8 Excludes branch network waste to landfill data for the CFS estate.
- 9 Extrapolated from 9 months data.
- 10 Including 37,689 tonnes of waste from Food stores and 2,307 tonnes of waste from Regional Distribution Centres (extrapolated from a 33% sample). It is estimated that 25,600 tonnes (68%) of The Co-operative Food's waste to landfill is food waste.
- 11 Extrapolated from a 91% sample.
- 12 Extrapolated from a 54% sample.
- 13 The framework looks for prohibition triggers such as: annual daily intake, OSPAR listing, toxicity, bioaccumulation, soil and persistency, prior informed consent, carcinogenicity and endocrine disruption.
- 14 [www.co-operative.coop/food/ethics/Environmental-impact/Chemicals-strategy](http://www.co-operative.coop/food/ethics/Environmental-impact/Chemicals-strategy)
- 15 OSPAR – The 1992 OSPAR Convention is the current instrument guiding international cooperation on the protection of the marine environment of the North-East Atlantic. The OSPAR Commission manages the convention.
- 16 IMO (International Maritime Organisation) – A United Nations Agency responsible for improving maritime safety and preventing pollution from ships.
- 17 Council Directive 76/769/EEC on restrictions on the marketing and use of certain dangerous substances and preparations (as amended).
- 18 IARC (International Agency for Research on Cancer) – Part of the WHO (World Health Organisation) established to coordinate and conduct research on the causes of human cancer, the mechanisms of carcinogenesis, and to develop scientific strategies for cancer control. Group 1: The agent is carcinogenic to humans, Group 2: The agent is probably carcinogenic to humans and Group 2A: The agent is possibly carcinogenic to humans.
- 19 European Chemicals Bureau (ECB) – The ECB provides scientific and technical support for the conception, development, implementation and monitoring of EU policies related to dangerous chemicals.
- 20 SCCP (Scientific Committee on Consumer Products) – The SCCP was set up by the European Commission to provide the Commission with unambiguous scientific advice on the safety of consumer products (non-food products intended for the consumer).
- 21 (Sl: 2006/1401) The Plastic Materials and Articles in Contact with Food Regulations 2006.
- 22 RoHS Directive – The RoHS Directive stands for "the restriction of the use of certain hazardous substances in electrical and electronic equipment". This Directive bans the placing on the EU market of new electrical and electronic equipment containing more than agreed levels of lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) flame retardants.
- 23 PIC (Prior Informed Consent) – The PIC procedure is the implementation of the Rotterdam Convention. The Convention covers pesticides and industrial chemicals that have been banned or severely restricted for health or environmental reasons.
- 24 Environmental NGOs – NGOs such as Greenpeace, Friends of the Earth and WWF regularly raise concerns regarding the effects of certain chemicals and the Group is responsive to this where the evidence warrants action.
- 25 IPPC Directive – An Environment Agency Integrated Pollution Prevention and Control directive implemented in England and Wales using Pollution Prevention and Control regulations.
- 26 HACSG (Hyperactive Children's Support Group) – HASAG is a registered charity that has been successfully helping ADHD/Hyperactive children and their families for nearly 30 years. The HACSG is Britain's leading proponent of a dietary approach to the problem of hyperactivity.
- 27 CSF (UK Chemicals Stakeholder Forum) – The principal function of the Forum is to advise the Government on how industry should reduce the risks from hazardous chemicals to the environment and to human health through the environment.
- 28 IFRA (International Fragrance Association) – IFRA represents the interests of the fragrance industry worldwide. The organization seeks to preserve the self-regulatory practices of the industry through the implementation of an international Code of Practice and safety standards.
- 29 WEN (Women's Environmental Network) – WEN is a campaigning organisation, focusing on issues that link women, environment and health. WEN's belief is that women have the right to information to enable them to make informed choices.
- 30 ECHA (European chemicals agency) SVHC (substances of very high concern) – ECHA was set up as part of the REACH (Registration, Evaluation and authorisation of chemicals) regulations, which came into force in 2008. Chemicals listed as SVHC are those which need notifying to ECHA if they are included in any products. The chemicals are considered carcinogenic, mutagenic or toxic to reproduction, or very persistent or very bioaccumulative in the environment.
- 31 European Commission Report (2010) Analysis of the risks arising from the industrial use of Perfluorooctanoic acid (PFOA) and Ammonium Perfluorooctanoate (APFO) and from their use in consumer articles. Evaluation of the risk reduction measures for potential restrictions on the manufacture, placing on the market and use of PFOA and APFO.
- 32 Europa (2006) Commission welcomes European Parliament's agreement for strict rules on the use of perfluorooctane sulphonates (PFOS). Brussels.
- 33 International Agency for Research on Cancer (IARC), IARC Classifies Formaldehyde as Carcinogenic to Humans, press release 153, June 2004.
- 34 Friends of the Earth (2004) Shop till you drop?
- 35 Ibid.
- 36 ENDS (2007) Tackling a Grubby Reputation, ENDS Report 386 (March 2007) pages 30–33.
- 37 ENDS (2005) MEPs Confirm Wide-Ranging Phthalate toy ban (July 2005).
- 38 WWF (2000) Bisphenol A: A Known Endocrine Disruptor.
- 39 Women's Environmental Network (WEN) (2003) Getting Lippy: Cosmetics, Toiletries and the Environment.
- 40 Sjodin, A et al (1999) Flame Retardant Exposure: Polybrominated Diphenyl Ethers in Blood from Swedish Workers, Environmental Health Perspectives, 107(8).
- 41 Lukentbach, T and Epal, D (2005) Nitromusk and Polycyclic Musk Compounds as Longterm Inhibitors of Cellular Xenobiotic defence systems mediated by multidrug transporters.

\* As part of the Group Pesticide Use Policy  
 \*\* Co-operative and the Responsible Use of Pesticides Controlling Residues  
[www.co-operative.coop/food](http://www.co-operative.coop/food)