

Priority Existing Chemicals Program

Candidate List of Chemicals (as of Jan 2008)

In 1999, NICNAS called for nominations from the public, industry, unions, government and non-government organizations of chemicals as potential Priority Existing Chemicals (PECs). Once chemicals were nominated they were screened according to set criteria, see ["the six-step review process"](#). Following screening, NICNAS compiled a list of chemicals with occupational, health and environmental concerns.

Chemicals can be nominated at any time. Once screened, chemicals are allocated to a Candidate or Non-selected list. The Candidate List consists of a main and stand-by section. Chemicals are placed on the stand-by section of the Candidate List if there are new data expected which could have an effect on whether the chemical is selected or not. The stand-by section is reviewed annually and chemicals transferred to the main section of the Candidate List, or the Non-selected List depending on the outcomes of awaited assessments and/or testing.

The stand-by section was reviewed in January 2008 and the updated Candidate List is published below. Where possible, direct links have been included to relevant overseas reviews.

As a result of the 2006 [Australian High Volume Industrial Chemicals List](#) (AHVICL) project, information on volumes and uses, if available, has been included. The column headings are described as follows:

Chemical – the name of the chemical.

CAS No – the Chemical Abstract Service number for the chemical.

1999 total volumes – the total volume of the chemical introduced into Australia from both imported and manufactured sources following a call for information from introducers during 1999.

Australian HVICL – an indication whether the chemical was reported in the year 2006 as being imported or manufactured in quantities exceeding 1000 tonnes per annum.

Relevant Overseas Reviews – reference or link to overseas reviews on the chemical as at January 2008.

Summary of uses – uses reported during the 1999 call for information and from the AHVICL project.

Abbreviations

ATSDR – Agency for Toxic Substances & Disease Registry; US Dept of Health & Human Services

CERHR – Center for the Evaluation of Risks to Human Reproduction; US Dept of Health & Human Services

CICAD – Concise International Chemical Assessment Documents; World Health Organization

EC – Environment Canada

ECETOC – European Chemical Industry Ecology & Toxicology Centre

EU RAR – European Union Risk Assessment Report

EPA IRIS Environment Protection Authority Integrated Risk Information System

IARC – International Agency for Research on Cancer; World Health Organization

IPCS ICSC International Program on Chemical Safety International Chemical Safety Cards

IPCS EHC – International Program on Chemical Safety Environmental Health Criteria Monographs; World Health Organization

IPCS HSG – International Program on Chemical Safety Health and Safety Guide Monographs; World Health Organization

JACC - Joint Assessment of Commodity Chemicals

JACT - Journal of the American College of Toxicology

NTP – US National Toxicology Program; US Dept of Health & Human Services

SIDS – Screening Information Data Set; Organization for Economic Co-operation and Development

USEPA – US Environmental Protection Agency

Candidate List

Chemical	CAS No	Total volume imported & manufactured (tonnes) 1999	Australian HVICL 2006	Relevant overseas reviews as at 2008	Summary of stated uses of the chemical
Main Section – as at January 2008					
Various Azo dyes	Various	~0.3	No	NTP (various reports)	Textile dyeing in mills; wood stains and polishes; colour in detergents and crepe paper; as identification in metal castings.
Alkyl-phenol ethoxylates generally (for information on specific chemicals see entries below)	Various	No data	No	EU RAR 2002	Emulsifier in floor polishes and solvent cleaners, iodophors, truck wash formulations; manufacture of acrylic latices and pigment dispersions, let down stabiliser in paint formulation; wetting agents, emulsifiers and dispersants for pesticide formulations; collector for coal flotation, dispersant for mineral slurries; degreasant for leather hide treatment; scouring of raw wool; as raw materials for phosphate and sulphate esters.
Nonylphenol ethoxylate	9016-45-9	~8782	Yes	EC 2002	In paints, inks, detergents, lubricants, cleaners, surfactant, degreasers, adhesives, surface coatings, bath oil; textile scouring agent; in mining industry; fuel and lubricant additive.
Nonylphenol ethoxylate blend	63496-57-1	~805	No	None	Cleaning compounds; biocide, anti-foaming agent and dispersant in paint, paper and tanning industries; textile scouring agent; lubricant in metal pressing and forming; horticultural wetting agent.
Octylphenol ethoxylate	9036-19-5	~828	No	HSDB 2002	Component in cleaners, paints, caulks, sealants, adhesives, resins, agricultural chemicals, textile coatings, printing pastes, contraceptive jelly, mould release agents; biocide in water treatment.
Beryllium and compounds	7440-41-7 (elemental beryllium)	~0.2	No	ATSDR 2002 CICAD 2001 USEPA 1998 IARC 1993 (summary only) IPCS - HSG 1990 IPCS - EHC 1990 NTP Report on Carcinogens, 11th Edition	Beryllium copper alloys are used in aerospace industry for aircraft landing gear bushes and torsion links. Alloys are also used in electronics industries. Beryllium is used in military non-sparking abrasive applications eg. Jason pistols.

Chemical	CAS No	Total volume imported & manufactured (tonnes) 1999	Australian HVICL 2006	Relevant overseas reviews as at 2008	Summary of stated uses of the chemical
1,3-Butadiene	106-99-0	~325,700	Yes	EU RAR 2002 ECETOC 1997, 2000, 2001 CICAD 2001 IARC 1999 (summary only) ATSDR 1993	For making rubber and plastic
Bismuth Oxochloride	7787-59-9	No data	No	None	Cosmetics (colouring agent, filler, binding and refractive thickener, absorbing agent)
t-butyl alcohol	75-65-0	~355	No	NTP 2007 NTP 2006 IPCS – EHC 1987	Component in aerosols, cosmetics, deodorants, hairsprays, colognes, aftershaves, antiperspirants, resins and polymer products; a laboratory reagent
Carbon Disulphide	75-15-0	~1950	No	IPCS - ICSC 2005 CICAD 2002 ATSDR 1996 IPCS – EHC 1979	Used in mineral processing, in herbicides and as laboratory reagent.
N,N-Dimethylformamide	68-12-2	~8	No	SIDS 2003 CICAD 2001 IARC 1999 (summary only) IPCS – EHC 1991	Peptide production, furniture industry, platemaking in printing industry, shoe paint, mining waste water treatment, laboratory reagent.
Epichlorohydrin	106-89-8	No data	No	IARC 1999 IPCS – EHC 1984 NTP Report on Carcinogens, 11th Edition	Used in the manufacture of elastomers, glycidil ethers, cross-linked food starch, wet strength resins for the paper industry, water-treatment resins, surfactants, ion-exchange resins, plasticizers, dyestuffs, pharmaceutical products, oil emulsifiers, lubricants, and adhesives. May also be used as a solvent for resins, gums, cellulose, esters, paints, and lacquers, and as a stabilizer in chlorine-containing substances such as rubber, pesticide formulations, and solvents.

Chemical	CAS No	Total volume imported & manufactured (tonnes) 1999	Australian HVICL 2006	Relevant overseas reviews as at 2008	Summary of stated uses of the chemical
Ethylene Oxide	75-21-8	~39,900	No	CICAD 54-2003 IARC 1994 (summary only) ATSDR 1990 IPCS - EHC 1985 ECETOC 1982, 1984 NTP Report on Carcinogens, 11th Edition	Used in chemical synthesis and as a fumigant and gas steriliser
Di(2-ethylhexyl) adipate	103-23-1	~1500	Yes	IARC 2000 and 1982 (summaries only) SIDS 2000 EPA IRIS 1994	PVC film manufacture; PVC compounds for wire cable tubing and footwear; carrier for reaction short stop in polymerisation process; tooling resins; adhesive resins, raw ingredient in printing chemicals.
Hydroquinone	123-31-9	~110.5	No	IARC 1999 (summary only) SIDS 1996 IPCS - EHC 1994 NTP (04, 07 various reports)	Major reported use in photographic processing. Also in resin and polymer manufacture, including as a stabiliser for resins in fibreglass industry and in gelcoats and flowcoats in fibre-reinforced plastics manufacture; in adhesive manufacture; as a laboratory reagent; for treatment of water in boilers & water cooling towers
Isocyanates (for info on specific chemicals see entries below)					
Diphenylmethane diisocyanate 2,4'-MDI	5873-54-1	~1,000	Yes	CICAD 2000	Manufacture and handling of polyurethane foam, resin and coatings.
Toluene Diisocyanates 2,6-TDI	91-08-7	~1800	Yes	IARC 1999 (summary only) IPCS EHC (no date)	Manufacture and handling of polyurethane foam, resin, moulding and coatings.
Monomeric Diphenylmethane diisocyanate 4,4'-MDI	101-68-8	~5527	Yes	CICAD 2000 IARC 1999 (summary only)	In fluids/pastes used for repair of metal, rubber and concrete; in manufacture of polyurethane foam, resins, adhesives, sealants, adduct mouldings, binders, fabric coatings and other products, in a wide range of industries; in paints, binding resins for mining and civil engineering, linings, floor coatings, jointing compounds, concretes.

Chemical	CAS No	Total volume imported & manufactured (tonnes) 1999	Australian HVICL 2006	Relevant overseas reviews as at 2008	Summary of stated uses of the chemical
Polymethylene polyphenylene isocyanate (PMDI)	9016-87-9	~681	Yes	CICAD 2000	Polyurethane elastomers and insulating foam; polyurethane compounds used in electrical insulation; adhesives for rubber and laminates; automotive paints; foam systems; curing compounds.
Isopropyl alcohol (Isopropanol)	67-63-0	~5243	Yes	IARC 1999 (summary only) IARC 1987 (summary only) SIDS 1997 IPCS – EHC 1990	Used as a solvent. Major reported use in printing inks and surface coatings. Also in thinners; cleaners; industrial and domestic detergents; cosmetics and hair spray and colours; pharmaceuticals; fuel and lubricant additives; adhesives; metal working fluids; fountain solutions; dry cleaning agents; shoe re-colouring paint; for analytical laboratory work; and in manufacture of polyacrylic acid.
Mercury Compounds	Various 7439-97-6	38	No	ATSDR 1999 IARC 1993 (summary only) IPCS EHC 1991 and 1976	In agriculture as fungicide. In alkaline batteries. As laboratory reagent. In production of temperature/pressure devices. As antiseptics. In electrical equipments.
Methyl ethyl ketone peroxide	1338-23-4	~1060	No	NTP 1993	Main reported use is in manufacture of polymers, and in polyester resins. Also catalyst for fibreglass; catalyst for polyester/vinyl surface coatings; spray putty hardener.
Methyl Ethyl Ketone	78-93-3	~9645	Yes	SIDS 1997 IPCS – EHC 1993 ECETOC 1993 ATSDR 1992 NTP 1989	Industrial, general and automotive paint; paint and adhesive thinners; printing inks; cleaners; resins; laquers; solvents / degreasing agents (incl. as cleaner in printing industry); detergents; polyurethane processing; textile dyeing; leather cleaning, stripping and dyeing; in magnetic tape industries; dewaxing of lubricating oil; laboratory reagent.
Methyl methacrylate	80-62-6	~8553	Yes	EU RAR 2001 (draft) SIDS 2001 CICAD 1998 NTP (various studies) ECETOC 1995	Used in production of acrylic copolymer emulsions for paints, resins, adhesives, caulks, sealants, textiles, non-woven fabrics, floor polishes; in formulation of polyester gelcoats and flowcoats in fibreglass manufacture; in laboratory work.

Chemical	CAS No	Total volume imported & manufactured (tonnes) 1999	Australian HVICL 2006	Relevant overseas reviews as at 2008	Summary of stated uses of the chemical
Methyl tert butyl ether	1634-04-4	~0.0015	No	ECETOC 1997, 2003, 2004 EU RAR 2002 IARC 1999 (summary only) IPCS - EHC 1998 ATSDR 1996	Uses unknown
N-methyl pyrrolidone	872-50-4	~600	No	CICAD 2001	Major reported use in coatings and electronics industries. Used as a solvent in graffiti removal products, paint strippers, industrial coatings (incl. as a co-solvent in water dispersed polymers used in formulating water based automotive re-finish paints), a laundry spot remover, industrial degreasers, a fixing solution for colour copy machines, pipe cement, shoe re-colourant; screen printing inks. Used as a solvent wash in screen printing; a solvent in polyurethane processing. Used in adhesive manufacture, incl. PVC adhesives used by installers of electrical accessories.
Naphthalene	91-20-3	~293	No	ATSDR 2005 NTP Rep on Carcinogens 2004 EU RAR 2003 IARC 2002 (summary only) IPCS – EHC 1998 NTP (various reports)	Major reported use is as an insecticide and fumigant, in moth repellents. Other uses are as a fuel and lubricant additive; dye dispersant and blocking agent in textile processing; water reducer in plasterboard manufacture; in fragrance formulation. Used by salt makers and in tanneries.
Peracetic Acid	79-21-0	~512	No	ECETOC JACC 2001	Water treatment, animal house disinfection, sanitation in dairies, in beverage and food production, and in horticultural/agricultural industries. Used in paper industry.
Phenolphthalein	77-09-8	~0.005	No	IARC 2000 (summary only) NTP (various reports) NTP Report on Carcinogens, 11th Edition	Indicator in water testing, car radiator cleaners, corrosion inhibitors, acid base titrations in laboratory.

Chemical	CAS No	Total volume imported & manufactured (tonnes) 1999	Australian HVICL 2006	Relevant overseas reviews as at 2008	Summary of stated uses of the chemical
Polyvinyl acetate	9003-20-7	No data (1999); ~151,930 (2004)	No	IARC 1979	Constituent of mascara; wood and paper glue; concrete curing agent and adhesive; foil lamination; cheese coating; paint; stiffing, hardening and backings for textiles.
Sodium hypochlorite	7681-52-9	~11,100	Yes	EURAR 2007 ATSDR FAQs ATSDR MMGs	Bleaches, cleaners, sanitisers (incl. in food and hospitality industries), biocide in water treatment (incl. swimming pools, industrial cooling water, industrial effluent, in sterilisation of plant pipes and tanks), formulated as lead nitrate solution for gold mining.
Styrene	100-42-5	~107,021	Yes	EU RAR 2002 IARC 2002 (summary only) ; IARC 1994 (summary only) IARC 1979 (summary only) ECETOC 1992,1995 IPCS – EHC 1983 NTP (various reports)	Major use in plastics manufacture (polystyrene, expandable polystyrene, styrene-acrylonitrile polymer (SAN), fibre-reinforced and filled plastic). Used in manufacture of paints, sealers and other surface coatings; lightweight concrete; motor, automotive and construction fillers; electrical insulation; resins. Dispersant for carbon black, tyres belting, carpet underlay, shoe soles, wire insulation, gaskets, tubing, adhesives.
1,1,1,2, Tetrafluoroethane	811-97-2	~1230	Yes	ECETOC JACC 2006 CICAD 1998 ECETOC JACC 1995	Refrigeration
Tetrafluoroethylene	116-14-3	No data	No	IARC 1999 (summary only) NTP (various reports) NTP Report on Carcinogens, 11th Edition	Resins
Toluene	108-88-3	~11,815	Yes	EU RAR 2003 ATSDR 2000 IARC 1999 (summary only) IPCS – EHC 1985 NTP (various reports)	Adhesives; printing inks; metal and timber paints; thinners; laquers; epoxy resins; cleaners; degreasers; leather strippers; dewaxing of lubricating oils; fuel system cleaners; aviation fuel additive; formulation of industrial chemicals; manufacture of phenolic resin.

Chemical	CAS No	Total volume imported & manufactured (tonnes) 1999	Australian HVICL 2006	Relevant overseas reviews as at 2008	Summary of stated uses of the chemical
Triethanolamine	102-71-6	~2676	Yes	IARC 2000 (summary only) SIDS 1997 NTP (various reports)	Ingredient in personal care and pharmaceutical products (for pH control and as neutralising agent); ingredient in domestic and industrial detergents and cleaning products (acts as a neutralising agent, emulsifier); in paints (pH control and pigment dispersion), printing inks, textile printing, rubber latex, cement (as pigment dispersion agent and for pH control); fibre lubricant (neutralising agent) in textiles; in photographic processing; metal working fluids; flame retardants; urethane foams; curing compounds and liming agents; explosives manufacture; automotive brake fluids and coolants (corrosion inhibitor); waste oil treatment (neutralising agent); woolscouring (neutralising agent).
Triethylene tetramine	112-24-3	~110	No	HSDB 2002 SIDS 1998	Epoxy resins, adhesives, surface coatings. Industries include mining, tool making, electronics, boat building, building and construction. Also used in detergents, synthesis of dyestuffs and pharmaceuticals
Xylene – mixed isomers	1330-20-7	~961	Yes	ATSDR 2007 SIDS 2003 IARC 1999 (summary only) IPCS - EHC 1997 ECETOC 1986 NTP (various reports)	Major use in industrial and automotive surface coatings, thinners and sealants; in inks and cleaners used in screen and lithographic printing; in electrical insulating varnishes used in electric motor and transformer manufacture; in lacquers and solvents in leather processing; in industrial rubber bonding; in petroleum dyes and detergent; solvent in manufacture of phenolic resin solutions.
o – Xylene	95-47-6	~0.09	No	ATSDR 2007 SIDS 2003 IARC 1999	Industrial coatings, automotive performance additive.
p – Xylene	106-42-3	~0.015	Yes	ATSDR 2007 SIDS 2003 IARC 1999	Uses unknown
m - xylene	108-38-3	No data	No	ATSDR 2007 SIDS 2003 IARC 1999	No data

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Standby Section – as at January 2008					
Chromium VI compounds	Various	~1083	No	ECB 2005 EU RAR 2002 (Draft) ATSDR 2000 IPCS – EHC 1988 IARC 1990 (summary) NTP Report on Carcinogens, 11th Edition	Chrome plating, printing, timber preservation, galvanising (such as: Pigment production, Chromium oxide production, Tanning salts, Wood preservative formulation, Wood preservative application, Treated wood in use, Metal treatment formulation, Metal treatment - electroplating, anodising, brightening, Mordant dyeing)
Zinc chromate	13530-65-9	~4	No	ATSDR 2000 IARC 1990 (summary only) IPCS – EHC 1988 NTP Report on Carcinogens, 11th Edition	Surface coatings, including as anticorrosive pigment in primer paints used in automotive industry.
1-Naphthalenamine	134-32-7	~0.0005	No	IARC 1987	Formulation of jet oil.
1-Naphthalenamine, N-phenyl	90-30-2	~1.3	No	CICAD9 1998	Formulation of jet oil.
2-Naphthalenamine	91-59-8	No data	No	IARC 1987 (summary only)	Formulation of jet oil.
2-Naphthalenamine, N-phenyl	135-88-6	No data	No	IARC 1987 (summary only) CICAD 1998 NTP (various reports)	Formulation of jet oil.
Tricresol phosphate	1330-78-5	~7	No	IPCS – EHC 1990 NTP (various reports)	Formulation of jet oil; manufacture of PVC, rubber, nitrocellulose lacquers, surface coatings and resins

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Nickel	7440-02-0	~17,100	Yes	EURAR 2005 ATSDR 2005 USEPA 2000 ECETOC 1989 ECETOC 1992 ECETOC 1993 IPCS EHC 1991 IARC 1990 (summary only) NTP Report on Carcinogens	Major reported use is in manufacture of stainless steel and alloys; also used in manufacture of welding electrodes and flux cored wire; as a catalyst; as an ingredient in mineral oil lubricant, in batteries.
Nickel oxide	1313-99-1	~8,633	No	USEPA 2000 IPCS – EHC 1991 IARC 1990 (summary only) NTP (various reports) NTP Report on Carcinogens, 11th Edition	As raw material in smelting. In stainless steel and alloy production. As catalyst in glass colours.
Nickel sulphate	7786-81-4	~240	No	EURAR 2005 USEPA 2000 IARC 1990 (summary only) TERA, 1999 NTP Report on Carcinogens, 11th Edition	Production of copper chrome arsenate; production of nickel metal in nickel refining; electroplating; specialised equipment manufacture; coating for camshafts in drilling equipment.