Table 1. Chemicals nominated to the NTP for in-depth toxicological evaluation for carcinogenesis testing in fiscal years 1988–2003

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Abrasive Blasting Agents	NIOSH 2002	- To determine safety of abrasive blasting agents suggested as substitutes for silica sand - To provide dose-response toxicity data for formulating occupational exposure limits	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M020039.Html
Accutane 4759-48-2	Private Individual 2000	- Widespread use in treatment of acne - Potential for serious adverse effects in young adults	Nominated for toxicity testing; under review
Acesulfame potassium 55589-62-3	Center for Science in the Public Interest 1996	- The FDA is considering a food additive petition for the use of acesulfame potassium as an artificial sweetener in nonalcoholic beverages. - Widespread consumer exposure - Additional testing needed to determine safety of product.	Acesulfame Potasium: http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M960069.Html Transgenic Model Evaluation: http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M000003.Html
Acetaminophen (4-hydroxyacetanilide) 103-90-2	Private Individual 1994	See Local Anesthetic compounds	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/10127-H.Html See Local Anesthetic Compounds
Acetic acid 64-19-7	Private Individual 1991	See Photographic Fixers and Developers	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/64197.Html See Photographic Fixers and Developers
Acetochlor 34256-82-1	NIEHS 1992	- Nominated as part of the U.S.- Hungary cooperative effort to study the effects of agricultural chemicals in the U.S. and Europe - Widespread use as a herbicide - Potential for large-scale human exposure - Lack of carcinogenicity testing data	Acetachlor; no testing Simazine (122-34-9) will be reviewed in place of acetachlor in a joint study between the NTP staff and representatives of Hungary.
Acetyl tributyl citrate (ATBC) 77-90-7	NCI 1991	- Widespread use; potential for increased use - Reports of food contamination from polyvinyl chloride (PVC) "cling-film" wrap and with plasticizers from other packaging materials - Lack of toxicity data	Withdrawn by nominator
2-Acetylpyridine 1122-62-9	NCI 1997	- Potential for occupational or environmental exposures as a result of production or processing - Potential for general and consumer population exposures based on its natural occurrence as a flavor/aroma constituent and wide use as a component in processed food products and in aroma therapy - Lack of genetic and chronic toxicity test data - Suspicion of carcinogenicity based on pyridyl ketone structure	Not being considered for testing at this time. http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M980010.Html
C.I. Acid Brown 83 13011-68-2	Private Individual 1990	- Potential for human exposure - Found to be a source of mutagens after leather coloring processes were conducted	Nominated for carcinogenicity; under review
C.I. Acid Red 52 3520-42-1	NCI 1989	See Dyes	See Dyes
Acrylamide 79-06-1	FDA 2003	See Acrylamide & Glycidamide	See Acrylamide & Glycidamide
Acrylamide & Glycidamide	FDA 2003	- Inadequate information to assess human health risks - Widespread exposure in food - Acrylamide metabolized to glycidamide which forms DNA adducts	Selected for toxicity and carcinogenicity testing Acrylamide (79-06-1): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/10949-Y.Html Glycidamide (5694-00-8): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatg/M930003.Html
S-Adenosylmethionine (SAMe) 29908-03-0	NCI 2000	- Widespread use as a popular dietary supplement used to treat osteoarthritis, depression, and liver disease - It is not known if high doses of exogenously administered SAMe can cause adverse effects from methylation of DNA bases.	Selected for genotoxicity and subchronic toxicity testing. -Deferred pending review of industry-conducted study.
Adiponitrile 111-69-3	NIEHS 1995	High production volume	No additional testing. http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/11489-P.Html
Alcohol Drug Combinations	Private Individual 1994	Intolerance to alcohol when combined with certain drugs	Not being considered for study at this time.

TABLE 1 (Continued)

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Alkoxy Silanes Class	Private Individual 1994	- Lack of quantitative carcinogenicity data by the oral route and little attention to reproductive and immunotoxic effects - Increased use in many schools and public buildings to remediate conditions related to microbiological contamination - Inadequate testing	Referred to the Interagency Testing Committee (ITC)
Long-Chain Alkylbenzenes	State of Connecticut 1995	- Believed to be high production chemicals - Literature suggests promotional effect as active promoters in dermal studies - Common marine pollutants which have been shown to bioaccumulate in shellfish - Lack of chronic toxicity data	Nominated for carcinogenicity testing; under review
Allyl acetate/Allyl alcohol	NCI 1993	- Potential for high human exposure - High production volume - Positive in numerous mutagenicity assays - Allyl alcohol was nominated with allyl acetate because of metabolism considerations.	Allyl acetate (591-87-7): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M930031.Html Allyl alcohol (107-18-6): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M930032.Html
Allyl bromide 106-95-6	NCI 1995	- Widespread use - Persistent as an environmental pollutant - Suspicion of carcinogenicity - Positive genotoxicity test results	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M950093.Html
Aloe Vera Gel 8001-97-6	NCI 1999	- Widespread oral and dermal exposure - Lack of toxicity information - A suspicion of carcinogenicity based on cell proliferation similar to that observed for croton oil	Selected for phototoxicity studies Aloe Vera Gel: http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M990056.Html Aloe Vera Whole Leaf Extract (Native): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M030041.Html Aloe Vera Charcoal Filtered Whole Leaf Extract: http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M030042.Html Aloe-Emodin: http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M010052.Html
Aluminum Contaminants Of Drinking Water	U.S. EPA and NIEHS 2000	- Aluminum is a listed by the EPA as a drinking water contaminant with a high health research priority. - Need for long-term low concentration rodent studies.	Aluminum Citrate 31142-56-0: http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M000036.Html Aluminum Fluoride 7784-18-1: http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M000037.Html
Aluminum sulfate 7783-20-2	Private Individual 1991	See Photographic Fixers and Developers	See Photographic Fixers and Developers
5-Amino-*o*-cresol 2835-95-2	NCI 2002	- Widespread occupational and consumer exposure - Suspicion of carcinogenicity	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/11462-W.Html
3-Amino-5-mercapto-1,2,4-triazole 16691-43-3	NIEHS 1997	- High production volume - Inadequate or no toxicological studies	Deferred pending review of industry testing results.
Ammonium sulfate 10043-01-3	Private Individual 1991	See Photographic Fixers and Developers	See Photographic Fixers and Developers
Ammonium molybdate 12027-67-7	NCI 1999	- Nominated as a representative soluble molybdenum compound and as a structural analog of molybdenum trioxide	No testing.
Tertiary-Amyl methyl ether (TAME) 994-05-8		See Fuel additives	See Fuel Additives
Androstenedione 63-05-8	NCI 1998	- Potential for abuse by athletes and bodybuilders as a steroidal precursor to testosterone - Lack of chronic testing data	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M990002.Html
Annatto 1393-63-1	NCI 1998	- High production volume - Widespread consumer exposure to annatto, one of the most highly consumed colorants in the U.S. food supply - Lack of toxicity data for bixin or norbixin, which are concentrated in annatto extracts and oils	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M980055.Html
Antimony trioxide 1309-64-4	State of California EPA (OEHHA) 1995	- Lack of acute exposure data	No testing.
Antimony Trisulfide 1345-04-6	NCI 2003	- Lack of data re possible toxic effects from long-term exposure - Widespread occupational exposure	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M030011.Html
Antiperspirants	Private Individual 1994	- Investigate the possible connection between the use of antiperspirants and the increase of breast cancer in women	Nominated for carcinogenicity testing; under review

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Arsenic 7440-38-2	Private Individual 1993	- Arsenic is considered to be the only chemical declared carcinogenic for humans without having unequivocal supporting evidence in animals.	Arsenic (7440-38-2) Arsenic trioxide was selected as the representative chemical to test.
Arsenic trioxide 1327-53-3	Private Individual 1993 NIEHS 1994	- Listed by IARC as a Group 1 human carcinogen - Testing to further validate NTP animal models and to strengthen the predictive value of animal studies for assessment of human risk.	Selected for carcinogenicity testing - Deferred at this time. Lack of appropriate animal model for human carcinogenicity http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/11200-F.Html
Articaine 23964-58-1	Private Individual 1994	See Local Anesthetic compounds	See Local Anesthetic compounds
Asbestos Fibers	Private Individual 1994	- Lack of adequate inhalation studies on asbestos fibers	http://ntp-server.niehs.nih.gov/htdocs/Results_status/Resstata/M940105.html
Aspartame 228309-47-0	Private Individual 1991	- Widespread consumer exposure; used as an artificial sweetener	Aspartame: http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M88167.Html Transgenic Model Evaluation studies of Asparame: http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M990064.Html
Asphalt Fumes 8052-42-4	State of California EPA 1994 NIOSH 1997	- Potential for widespread occupational exposure - Unresolved questions regarding the effects of exposure	NIOSH conducted studies to develop and validate an asphalt exposure system. No additional studies will be conducted.
Atrazine 1912-24-9	Private Individual 1991 NIEHS 1994	- Wide use as pre-emergent herbicide that pollutes groundwater - Some studies have indicated tumor induction in mice. See Pesticides and Kids	Deferred pending review and assessment of industry studies. http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M20327.Html See Pesticides and Kids
3´-Azido-3´-deoxythimidine (AZT) 30516-87-1	NCI 1990	- Primary drug used to treat AIDS and HIV positive patients - Concern over the chronic toxicity effects of the drug to humans	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M88195.Html
Benlate DF with Flusilazole and Chlorothalonil	State of Florida 1995	- Large number of agricultural workers exposed - Little is known about the toxicology of benlate in combination with suspected contaminants, flusilazole and chlorothalonil	Nominated for toxicological testing; under review. Chlorothalonil (1897-45-6): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/10692-V.Html Benomyl (17804-35-2): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatb/10970-L.Html
Benomyl 17804-35-2	State of Florida 1995	See Benlate DF with flusilazole and chlorothalonil	See Benlate DF with flusilazole and chlorothalonil
Bentonite 1302-78-9	NIOSH 1998	- Need to determine its potential to cause lung disease. - Occupation exposure and high incidence of fibrotic lung disease -Data lacking for regulation in the workplace	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatb/M980080.Html
Benzene 71-43-2	Private Individual 1991	- High production volume - Widespread population exposure - Continuing interest in public health issues as well as to mechanisms of action	Nomination withdrawn by nominator Benzene: http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatb/10389-Y.Html Transgenic Model Evaluation (Benzene): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M990069.Html
Benzidine 92-87-5	ATSDR 2002	- Inadequate information on health effects of a hazardous substance found at a National Priorities List waste site.	Nominated for toxicity testing; under review
Benzo[*a*]pyrene [B(a)P] 50-32-8	State of California 1989	- Environmental pollutant produced by the incomplete combustion of carbon products - Widespread exposure - Sufficient dose-response data needed for low-dose extrapolation to establish health based exposure criteria for humans environmentally exposed to B(a)P	Nominated for carcinogenicity; under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatb/10353-C.Html
Benzocaine 94-09-7	Private Individual 1994	See Local Anesthetic compounds	See Local Anesthetic compounds
5,6-Benzoflavone 6051-87-2	NCI 1999	- Currently under review at NCI as a possible chemopreventive agent without an industry sponsor - Has not been tested for carcinogenicity and may exhibit reproductive toxicity	Selected - Deferred pending receipt of data from NCI preclinical toxicity studies
Benzophenone 119-61-9	NIEHS 1988	- Worker and consumer exposure - Lack of chronic toxicity data	http://ntp-server.niehs.nih.gov/htdocs/NTP_Private/Noms/N88305.Html

TABLE 1 (Continued)

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Benzothiazole 95-16-9	NCI 1997	- Potential for human exposure from its presence in foods and beverages, and as an environmental contaminant - Lack of chronic toxicity data	Deferred pending review of human exposure data http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatb/95169.Html
Benzoyl chloride 98-88-4	NCI 1990	- Potential for significant human exposure - Use as an acylating agent in many commercial processes - Suspicion of carcinogenicity as an acylating agent	Nominated for 2-stage initiation/promotion studies
Benzyl chloride 100-44-7	State of California EPA 1995	- Lack of acute exposure data	No additional testing - http://ntp-server.niehs.nih.gov/htdocs/Results_Status/ResstatB/10481-X.html
Benzyltrimethylammonium chloride 56-93-9	NIEHS 1988	- High production volume - Worker exposure - Lack of chronic toxicity data	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatb/M200008.Html
Berberine chloride dihydrate 5956-60-5	NIEHS 1998	- Potential for human exposure - Lack of chronic or carcinogenicity data	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/ResstatB/M990031.html Also see Goldenseal Root Powder: http://ntp-server.niehs.nih.gov/htdocs/Results_Status/ResstatG/M980070.html
Bis(tri-n-butyltin) oxide 56-35-9	NCI 1988	- High and increasing production volume - Potential for human exposure - Detected in fresh water - Associated with adrenal and pituitary tumors in Wistar rats - Lack of adequate chronic testing	Nominated for carcinogenicity - Deferred http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatb/11515-Y.Html
Bisacodyl 603-50-9	NIEHS 1996	- Structurally related to phenolphthalein, which is currently being used in over-the-counter laxatives	Nominated for carcinogenicity testing; under review
Bisphenol A diglycidyl ether 1675-54-3	NIEHS 1988 United Automobile Workers (UAW) 1998 2000	- Found in the industrial environment in substantial levels	Selected for testing - Deferred; referred to EPA http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatb/M20190.Html
Bisphenol S 80-09-1	NCI 1994	- Potential for widespread occupational exposure - Used in a variety of processes, especially as a chemical intermediate and monomer in the manufacture of plastics and resins	Withdrawn by nominator
Bitter Orange	Private Individual 2002	- Potential wide spread exposure; being used as a substitute for ephedra in dietary supplements - Structural similarities to ephedrine - Lack of toxicity data	Nominated for toxicity; under review
Bixin 6983-79-5	NCI 1998	See Annatto	See Annatto
Black Cohosh 84776-26-1	NCI and NIEHS 2000	- Increased use as a dietary supplement used in the treatment of menstrual and menopausal symptoms in women - No chronic studies in humans or animals demonstrating the safety of black cohosh	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatb/M000058.Html
Bladderwrack and Extract 68917-51-1 84696-13-9	NCI 2001	- Potential for widespread exposure as a dietary supplement promoted for weight loss - Lack of toxicity testing data coupled with a strong suspicion that adverse events may occur in humans exposed to it	No testing.
Blue Green Algae	NCI 2000	- Potential for widespread exposure; used as dietary supplement - Microcystins, a potent hepatotoxin and suspected liver carcinogen, and anabaena, which contain possible neurotoxins, have been found in the blue-green algae supplements.	Selected for toxicity testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M010004.Html

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Brominated Chemicals	NIEHS 1995	- Most brominated chemicals evaluated to-date by the NTP were carcinogenic in rodents. The mechanisms of carcinogenesis are unknown. - Three of the nominated brominated chemicals have high production volumes and were identified as hazardous substances. - Five of the brominated chemicals were identified as pesticides that are regulated by the EPA.	Tetrabromophthalic anhydride (632-79-1): -Deferred pending receipt of industry data. http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/11301-P.Html 2-Bromo-2-nitro-1,3-propanediol (52-51-7): -No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatb/52517.Html Bromochloromethane (74-97-5): - Under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatb/74975.Html 2,4,6-Tribromophenol (118-79-6): -No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M20104.Html Bromoacetic acid (79-08-3) - Under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatb/M920034.Html Tribromosalan (87-10-5) - Under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M950116.Html Bromoxynil octanoate (1689-99-2) - Under review 1,2-Dibromo-2,4-dicyanobutane (35691-65-7): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/M950118.Html
2-Bromo-2-nitro-1,3-propanediol 52-51-7	Private Individual 1988 NIEHS 1995	See Brominated chemicals	See Brominated chemicals
1-Bromo-3-chloropropane 109-70-6	NIEHS 1999	- Structural similarity to 1,2-dibromo-3-chloropropane, a known animal carcinogen - Lack of toxicity and carcinogenicity data	No testing
Bromoacetic acid 79-08-3	American Water Works Association Research Federation 1991 NIEHS 1995 U.S. EPA, 1995	See Water Disinfection By-Products See Brominated chemicals	See Water Disinfection By-Products See Brominated chemicals
Bromochloroacetic acid 5589-96-8	U.S. EPA 1995 1997	See Water Disinfection By-Products	See Water Disinfection By-Products
Bromochloroacetonitrile 83463-62-1	AWWARF 1991	See Water Disinfection By-Products	See Water Disinfection By-Products
Bromochloromethane 74-97-5	NIEHS 1995	See Brominated chemicals	See Brominated chemicals
Bromodichloroacetic acid 71133-14-7	AWWARF 1991 U.S. EPA 1995 1997	See Water Disinfection By-Products	See Water Disinfection By-Products
Bromodichloromethane 75-27-4	U.S. EPA 1995 1997	See Water Disinfection By-Products	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatb/10397-Y.Html Transgenic Model Evaluation (Bromodichloromethane 75-27-4): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M990005.Html See Water Disinfection By-Products
Bromopropanes	OSHA 2000	- Predicted increase in domestic production and use of 1-bromopropane - 2-Bromopropane is a contaminant in commercial preparations of 1-bromopropane	1-Bromopropanes (106-94-5): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatb/M000017.Html 2-Bromopropanes (75-26-3): No testing
2-Bromopropane	NIEHS 2002	- Lack of animal data to evaluate developmental toxicity	Nominated for development toxicity; under review

TABLE 1 (Continued)

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
N-Bromosuccinimide 128-08-5	NCI 1994	- Concern for possible chronic adverse health effects related to exposures - Widely used in many different kinds of laboratory settings	No testing.
Bromoxynil octanoate 1689-99-2	NIEHS 1995	See Brominated Chemicals	See Brominated Chemicals
2,3-Butanedione (Diacetyl) 431-03-8	NCI 1994	- Wide-spread human exposure - Limited toxicity data	No additional testing. http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatb/M940009.Html
1,2,3,4-Butanetetracarboxylic acid 1703-58-8	NCI 1989	- Potential use as substitute for formaldehyde-containing finishes in the textile industry - Significant increase in use of chemical is expected in the textile industry - Lack of toxicity data	Nominated for carcinogenicity -Deferred pending verification of use in the textile industry http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatb/M90009.Html
N-Butyl Bromide 109-65-9	NCI 2001	- A mutagenic alkylating agent that suggests a strong likelihood of carcinogenic activity - A high production volume chemical with increasing usage - Identified as a drinking water pollutant	Nominated for toxicity testing - Deferred pending receipt of additional information
tert-Butyl formate 762-75-4	U.S. EPA 1996	- Environmental degradation product of methyl *tert*-butyl ether (MTBE) - Public health concern about acute health effects related to exposure to evaporative and/or exhaust emissions from use of oxygenated gasoline	Nominated for toxicity testing -Deferred pending receipt of EPA/industry testing data http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatb/M950109.Html
N-Butyl Glycidyl Ether 2426-08-6	NIEHS 2002	- High production volume chemical - Lack of chronic testing data - No additional chronic mammalian toxicity testing proposed by industry under the HPV Challenge Program.	Nominated for toxicological characterization; under review
N-Butyl nitrite 544-16-1	NCI 1989	- Used as a street drug - Potential for human exposure - Positive in *Salmonella* and mouse lymphoma assays - Lack of prechronic and chronic toxicity data	Recommended for carcinogenicity; isobutyl nitrite tested in place of butyl nitrite Isobutyl nitrite (542-56-3): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstati/10869-J.Html
tert-Butylcatechol 98-29-3	NCI 1994	- Industrial chemical with high and increasing level of production and usage - Potential for human exposure - Suspicion of carcinogenicity	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatb/M930033.Html
tert-Butyl hydroperoxide 75-91-2	NCI 2002	- High production volume chemical not being evaluated under the EPA HPV Challenge Program	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatb/10405-A.Html
tetra-N-Butyltin 1461-25-2	NIEHS 1999	- Structure-activity relationship to known toxic organotin compounds - Potential widespread release into the environment	Not being considered at this time
Buvicaine 2108-82-9	Private Individual 1994	See Local Anesthetic Compounds	See Local anesthetic compounds
Cadmium 7440-43-9	Private Individual 1994	- Need for additional research data - IARC reclassified cadmium as a Group 1 carcinogen.	Nominated for carcinogenicity testing; under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/11219-Y.Html
Cadmium Telluride 1306-25-8	Brookhaven Nat'l Labs & US Dept of Energy 2003	- Potential for widespread exposure - Additional testing data needed to address health and safety issues related to the manufacture and use of cadmium telluride.	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/11219-Y.Html
Cafestol 469-83-0	Private Individual 1998	- May raise cholesterol levels - May be a FXR antagonist	No testing
Caffeine 58-08-2	Private Individual 1991 Private Individuals 1996	- Widespread use - Lack of mouse cancer studies - Lack of consistent epidemiological data See Naturally Occurring Chemicals in the Diet	No chronic testing; epidemiology study may be planned by NIEHS. http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/10036-G.Html See Naturally Occurring Chemicals in the Diet
Carbaryl 63-25-2	NIEHS 1994 Private Individual 1995	See Pesticides and Kids See Carbaryl, Kelthane (Dicofol), Dursban combination exposure	See Pesticides and Kids See Carbaryl, Kelthane (Dicofol), Dursban combination exposure

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Carbaryl, Kelthane (Dicofol), Dursban Combination Exposure	Private Individual 1995	- Direct dermal exposure to chemical spray resulted in severe health problems consistent with chemical exposure reports.	Nomination forwarded to EPA Office of Pesticide Programs. Dicofol (115-32-2): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/10835-V.Html Carbaryl (63-25-2) - Juvenile pesticide assessment completed – http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatk/M950062.Html Chlorpyrifos (Dursban) (2921-88-2): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M90011.Html
Carbon Fiber and Carbon Fiber Composite Particulate	UAW 1998 2000	- Concern about health effects of chemicals and combinations of chemicals (including particulates) found in the industrial environment in substantial levels.	Nominated for carcinogenicity testing; under review
Carbon tetrachloride 56-23-5	State of California EPA 1995	- Data gaps need to be filled for setting scientifically based acute and chronic non-cancer reference exposure levels for use in human and environmental risk assessments.	No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/11112-R.Html
Carbon/Graphite Fiber Composites	UAW 1994	See Synthetic Mineral Fibers	See Synthetic Mineral Fibers
Carbonyl sulfide 463-58-1	U.S. EPA 1996	- High production chemical that is listed as a hazardous air pollutant under the Clean Air Act amendments of 1990	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M950074.Html
[(*o*-Carboxyphenyl)-thio] ethylmercury sodium salt 54-64-8	NIEHS 1987	- Worker exposure - Potential for high consumer exposure (widely used topical anti-infective) - Lack of chronic toxicity data	No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M200004.Html
beta-Carotene 7235-40-7	Private Individual 1996	- Widespread human exposure through vitamin supplements and food products - Clinical trials suggest increases in lung cancer and in total mortality in participants receiving beta-carotene alone or beta-carotene plus vitamin A	Nominated for carcinogenicity testing; under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M970001.Html
Carrageenan 9000-07-1	Private Individual 2001	- Potential for widespread exposure; widely used food additive - Associated with development of intestinal neoplasms in animals - It would be useful to consider production of free radicals and upregulation of known oncogenes following exposure to carrageenan.	Nominated for carcinogenicity testing; under review
beta-Caryophyllene 87-44-5	NCI 1998	- Widespread human exposure - Unknown potential for adverse health effects from long-term exposure	No additional testing http://ntp-server.niehs.nih.gov/htdocs/NTP_Private/Noms/N98009.Html
Catechol 120-80-9	NCI 1989	- Significant production - Widespread occurrence - Potential for high human exposure - Suspicion of carcinogenicity as a benzene metabolite	Nominated for carcinogenicity; no testing. NTP terminated the toxicity study prior to chronic testing and alternate members of class of hydroxybenzenes were selected http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/10094-W.Html
Cedarwood Oil 8000-27-9	NCI 2003	- Potential for increased exposure; may be used as a substitute for naphthalene moth balls - Lack of toxicity data	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M030012.Html
Cefuroxime 55268-75-2	FDA 1999	- Lack of carcinogenicity data - Potential for prolonged exposures to this drug	Selected for genotoxicity testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M990081.Html
Cellulose Insulation	Private Individual 1994	- Used in several applications with potential for widespread human exposure in the workplace and in the general population - Proposed as a "safe" alternative to asbestos for use in the production of asbestos cement pipe and household/industrial insulation	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M960001.Html
alpha-Chaconine 20562-03-2	Private Individuals 1996	See Naturally Occurring Chemicals in the Diet	See Naturally Occurring Chemicals in the Diet
Chloral 75-87-6	AWWARF 1991	See Water Disinfection By-Products	See Water Disinfection By-Products

TABLE 1 (Continued)

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Chloral hydrate 302-17-0	FDA 1991 1999	- Widely used in pediatric medicine to sedate children for medical procedures - Evidence of carcinogenic potential in male mice	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/10609-C.Html
Chlorate (Chlorate Ion) 14866-68-3	U.S. EPA 1995	See Water Disinfection By-Products	See Water Disinfection By-Products- Halogenated Acetic Acids (HAAs)
Chlordane 57-74-9 (Reagent Grade) 12789-03-6 (Technical Grade)	NIEHS 1988 Citizens Against Pesticide Misuse 1989	- Previous carcinogenicity studies considered to be inadequate - Extensive human exposure - Chlordane has a long half-life and is frequently identified in hazardous waste sites and in ground water. - Although chemical is no longer used, there is significant human exposure from contaminated homes. - Toxic effects observed in people exposed to chlordane	Analytical (Reagent) Grade: http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/57749.Html Technical Grade: http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/10849-T.Html
2-Chloro-1-propanol 78-89-7	Private Individual 1997	- Human epidemiology studies have shown an association between exposure to chlorohydrins and pancreatic lesions	Nominated with 2-chloroethanol (107-07-3): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/10517-W.Html
3-Chloro-4-(dichloromethyl)-5-hydroxy-2(5H)-furanone (MX) 77439-76-0	AWWARF 1991 NIEHS 1994 U.S. EPA 1995	- By-product of water chlorination - Direct-acting mutagen in *Salmonella*. Nearly 50% of the mutagenic activity of finished drinking water has been attributed to MX. See Water Disinfection Byproducts	No further testing. http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M920035.Html
2-Chloro-6(trichloro-methyl)pyridine 1929-82-4	NIEHS 1999	- High U.S. production volume - Potentially high human exposure	No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M20194.Html
Chloroethane 75-00-3	U.S. EPA 1996	-Additional data needed to define the inhalation dose response for carcinogenicity and to better characterize the reproductive toxicity. -Interest in examining dose-response relationship involved in the development of uterine tumors.	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/10019-D.Html
2-Chloroethanol (Ethylene chlorohydrin) 107-07-3	Private Individual 1997	- Human epidemiology studies have shown an association between exposure to chlorohydrins and pancreatic lesions.	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/10517-W.Html
bis(2-Chloroethyoxy)-methane 111-91-1	NIEHS 1998	- High production volume - Lack of toxicology studies	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M980065.Html
Chloroform 67-66-3	State of California EPA 1995	- Data gaps should be filled in order to set scientifically-based acute and chronic non-cancer reference exposure levels for use in human and environmental risk assessments	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/10384-E.Html Water Disinfection Byproducts (Chloroform): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatw/M980039.Html
Chlorogenic acid 327-97-9	Private Individuals 1996	See Naturally Occurring Chemicals in the Diet	See Naturally Occurring Chemicals in the Diet
p-Chloro-*m*-xylenol (PCMX) 88-04-0	Private Individual 1995	- The safety of PCMX needs to be verified and essential toxicological parameters need to be established. - Manufacturer lacks funds for performing long-term toxicological tests required by FDA.	Nominated for toxicity; under review
Chloropicrin 76-06-2	State of California EPA 1995	- Data gaps that need to be filled in order to set scientifically-based acute and chronic non-cancer reference exposure levels for use in human and environmental risk assessments	No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/10848-P.Html
o-Chloropyridine 109-09-1	NCI 1997	- Increasing production and use as a pharmaceutical and agrochemical intermediate - Potential for occupational and environmental exposure - Evidence of mutagenicity based on results in several short-term test systems - Suspicion of carcinogenicity based on structure and evidence of mutagenic or carcinogenic effects associated with structurally related chemicals	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M940010.Html
Chlorothalonil 1897-45-6	State of Florida, 1995	See Benlate DF with Flusilazole and Chlorothalonil	See Benlate DF with Flusilazole and Chlorothalonil

TABLE 1 (Continued)

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Chlorpyrifos (Microencapsulated) (Dursban) 2921-88-2	Citizens Against Pesticide Misuse 1989 Private Individual 1994 1995 NIEHS 1994 Workplace Health Services 1996	- Used as a replacement for chlordane - Toxic effects observed in people exposed to chlorpyrifos See Pesticides and Kids See Carbaryl, Kelthane (Dicofol), Dursban combination exposure	Chlorpyrifos (Dursban) (2921-88-2) -Referred to EPA http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M90011.Html See Pesticides and Kids See Carbaryl, Kelthane (Dicofol), Dursban combination exposure
Chondroitin sulfite 9007-28-7	NCI 2003	- Lack of data re possible toxic effects from long-term exposure.	Selected for carcinogenicity testing alone and in combination with glucosamine. http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M030009.Html
Chromium picolinate 14639-25-9	Private Individual 1998 NCI 1998	- Potential for widespread exposure as a dietary supplement used for weight loss - Significant chromosome damage to Chinese hamster ovary cells when the rodents were exposed to a non-toxic dose	Selected for carcinogenicity testing. -Chromium Picolinate Monohydrate tested in place of Chromium Picolinate http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M980072.Html
Chromium picolinate monohydrate 27882-76-4	Private Individual 1998 NCI 1998	- Potential for widespread exposure as a dietary supplement used for weight loss - Significant chromosome damage to Chinese hamster ovary cells when the rodents were exposed to a non-toxic dose	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M010098.Html
Cimetidine 51481-61-9	Private Individual 1991	- Appears to increase SCE frequency in ulcer patients and following *in vitro* incubation of human lymphocytes. It also produces chromosomal aberrations in rodent models. - Inadequate testing for carcinogenicity	Nominated for carcinogenicity testing; under review
1,8-Cineol 470-82-6	NIEHS 1996	See Synthetic Fragrances	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/10015-L.Html See Synthetic Fragrances
Cinnamaldehyde 104-55-2	FDA 1989	- Important flavoring agent in food - Significant human exposure - Suspicion of carcinogenicity based on structural considerations - Lack of adequate carcinogenicity data	Cinnamaldehyde (104-55-2) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/10007-L.Html *trans*-Cinnamaldehyde (14371-10-9) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M88146.Html
Citronellol 106-22-9	NCI 1997	- High production volume - Widespread human exposure - Unknown potential for adverse health effects from long-term administration - Significant occupational exposure	Deferred pending review of the Citral study results http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M980011.Html
Clarithromycin 81103-11-9	FDA 1999	- Widespread exposure to drug - Rapid absorption and distribution into body tissues - Lack of carcinogenicity data	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M960078.Html
Cobalt Metal Dust And Soluble Cobalt Chemicals	UAW 1989 1994 1998 Cobalt Development Institute 2002 U.S. Dept of Labor 2002	- High occupational exposure - Known toxic effects of cobalt inhalation exposure as indicated from occupational inhalation studies	Cobalt (7440-48-4) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/10204-K.Html Cobalt Sulfate Heptahydrate (10026-24-1) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/10204-K.Html Cobalt Sulfate (10124-43-3) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/10228-S.Html
Cocaine 50-36-2	Private Individual 1994	See Local anesthetic compounds	See Local anesthetic compounds
Comfrey and Its Alkaloids	NIEHS 1998	- Potential for chronic human exposure - Limited carcinogenicity data	Comfrey (72698-57-8) - No testing recommended Symphytine (22571-95-5) - No testing recommended Comfrey Mixture - No testing recommended
Copper and Copper Compounds	State of California EPA 1995	- Lack of acute exposure data	No testing recommended Copper and inorganic compounds (7440-50-8): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/10811-N.Html
p-Coumaric acid 7400-08-0	Private Individuals 1996	See Naturally Occurring Chemicals in the Diet	See Naturally Occurring Chemicals in the Diet

TABLE 1 (Continued)

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Cumene 98-82-8	NIEHS 1996	- Widespread human exposure - High production level - Lack of chronic testing	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M940157.Html
Cumene hydroperoxide 80-15-9	NIEHS 1998	- High production volume - Absence of chronic data	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M200035.Html
Cyanogen chloride 506-77-4	U.S. EPA 1995	See Water Disinfection By-Products	See Water Disinfection By-Products
Cyclohexene oxide 286-20-4	NCI 1993	- Potential for widespread exposure	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M930034.Html
2-Cyclohexene-1-one 930-68-7	NCI 1992	- A representative cyclic alpha, beta-unsaturated ketone, with broad human exposure - Potential for biological activity - Lack of chronic toxicity data	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M920020.Html
Cylindrospermopsin 143545-90-8	NIEHS 2000	- Cyanobacteria, a blue-green algae associated with eutrophication, and their toxins have been identified by the EPA as drinking water contaminants with high health research priority.	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M000072.Html
D and C Red (Numbers 27 and 28)	FDA 2001	- Concerns about photocarcinogenicity	D and C Red Number 27 (13473-26-2) - Photocarcinogenicity testing dependent on results of human dermal absorption studies http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/M010010.Html D and C Red Number 28 (18472-87-2) - Photocarcinogenicity testing dependent on results of human dermal absorption studies http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/M010011.Html
DNA-Based Products	FDA 1999	- The number of DNA-based products being submitted to the FDA is growing rapidly. - More recently, DNA vaccines and synthetic oligos have been developed for use in relatively healthy individuals, making long-term safety a dominant concern.	Retroviral Vectors http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatr/M910057.Html Adenoviral Vector http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M020050.Html Adeno-Associated Viral Vector http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M030030.Html
2,4-Decadienal 25152-84-5	NCI 1993	See Dienaldehydes	See Dienaldehydes
Decane 124-18-5	NCI 2003	- Widespread exposure - Lack of carcinogenicity data	Nominated for carcinogenicity testing; under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/124185.Html
Dehydroepiandrosterone	Private Individual 1997 NCI 1998	- Dietary supplement, available over-the-counter - Promoted as a muscle builder, to slow the aging process and as a weight loss aid	Dehydroepiandrosterone sulfate (651-48-9) - Deferred pending the receipt of additional information Dehydroepiandrosterone sulfate, Sodium Salt (78590-17-7) - Deferred pending the receipt of additional information
Deoxynivalenol 51481-10-8	NIEHS	- Widespread exposure - Inadequate carcinogenicity data	Nominated for carcinogenicity testing; under review
Diacetone alcohol (DAA) 123-42-2	NCI 1993	- High production volume - Widespread and increasing use - Potential for occupational and consumer exposure to the chemical as an atmospheric and surface water contaminant, and through its uses as a solvent and food additive	Deferred in order to review data submitted by industry on methyl isobutyl ketone http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/M930035.Html
Diazoaminobenzene 136-35-6	NIEHS 1988	- Worker exposure (widely used in scientific laboratories) - Existing carcinogenicity studies (oral) were equivocal	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/M20124.Html
Diazonaphthoquinone Compounds	NIEHS 2002	- Wide-spread occupational exposure - Lack of toxicity data on photoresist mixtures	Nominated for toxicity testing; under review
Dibenzofuran 132-64-9	NCI 2001	- Widespread general exposure as an air pollutant generated by municipal waste incinerators and exposure via contaminated ground water - Little information on the toxicity is available	Not being considered for testing at this time. http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/10580-Y.Html
1,2-Dibromo-3-chloropropane 96-12-8	ATSDR 2002	- Inadequate information on health effects of a hazardous substance found at a National Priorities List waste site.	Nominated for toxicity testing; under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/10465-X.Html
1,2-Dibromo-2,4-dicyanobutane 35691-65-7	NIEHS 1995	See Brominated chemicals	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/M950118.Html See Brominated chemicals

TABLE 1 (Continued)

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Dibromoacetic acid 631-64-1	AWWARF 1991 U.S. EPA 1995	See Water Disinfection By-Products See Water Disinfection By-Products - Halogenated Acetic Acids (HAAs)	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/M920037.Html See Water Disinfection By-Products See Water Disinfection By-Products- Halogenated Acetic Acids (HAAs)
Dibromoacetonitrile 3252-43-5	AWWARF 1991 U.S. EPA 1997	See Water Disinfection By-Products	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/10985-P.Html See Water Disinfection By-Products
1,2-Dibromoethane 106-93-4	ATSDR 2002	- Inadequate information on health effects of a hazardous substance found at a National Priorities List waste site.	Nominated for toxicity testing; under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/10513-F.Html
Dibutyl Phthalate 84-74-2	ATSDR 2002	- Inadequate information on health effects of a hazardous substance found at a National Priorities List waste site.	Nominated for toxicity and carcinogenicity testing; under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/10987-X.Html
1,2-Dichloro-1,1-difluoroethane 1649-08-7	NIEHS 1991	See Halogenated Ethanes Class Study	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/M910066.Html See Halogenated Ethanes Class Study
2,3-Dichloro-1,3-butadiene 1653-19-6	NIEHS 1997	- Lack of toxicity and carcinogenicity data	Nominated for carcinogenicity testing; under review
1,3-Dichloro-2-Butene 926-57-8	NIEHS 1999	- High U.S. production volume and potentially high human exposure - Structurally similar to a known carcinogen	Deferred pending receipt of industry information http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/M990025.Html
Dichloroacetic acid 79-43-6	U.S. EPA 1988 1995 1997	- Breakdown product of drinking water disinfectants - High human exposure - Suspicion of carcinogenicity - The EPA is in the process of developing new drinking water regulations for water disinfection by-products See Water Disinfection By-Products	See Water Disinfection By-Products and Water Disinfection Model http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/M882484.Html
Dichloroacetonitrile 3018-12-0	Private Individual 1990 AWWARF 1991	- By-product formed during disinfection of drinking water - Potential for human exposure - Soft tissue malformations, cardiovascular and urogenital anomalies observed in oral toxicity studies in laboratory animals See Water Disinfection By-Products	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/10989-F.Html See Water Disinfection Byproducts
p,p´-Dichlorodiphenol-dichloroethylene 72-55-9	University of Cincinnati 1994	See Pesticides and Herbicides	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/10393-H.Html See Pesticides and Herbicides
Dichlorodiphenyltrichloro-ethane (DDT) 50-29-3	ATSDR 2002	- Inadequate information on health effects of a hazardous substance found at a National Priorities List waste site.	Nominated for chronic toxicity testing; under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/10352-X.Html
Dichlorodiphenyltrichloro-ethane (DDT) 50-29-3	Private Individual 1994 University of Cincinnati 1994	See Pesticides and Herbicides	See Pesticides and Herbicides
1,2-Dichloroethane 107-06-2	NIEHS 1991 ATSDR 2002	-Study to examine class of halogenated ethanes - Inadequate information on health effects of a hazardous substance found at a National Priorities List waste site.	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/10962-L.Html Nominated for toxicity testing; under review
1,1-Dichloroethene 75-35-4	ATSDR 2002	- Inadequate information on health effects of a hazardous substance found at a National Priorities List waste site.	Nominated for toxicity testing; under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatv/10109-A.Html
2,4-D (2,4-Dichlorophenoxy-acetic acid) 94-75-7	Private Individual 1991	-Continuing interest to public health as well as to mechanisms	No chronic testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/10451-Y.Html
Dichloropropane (Propylene dichloride) 78-87-5	State of California 1995	- Data gaps that should be filled in order to set scientifically-based acute and chronic non-cancer reference exposure levels for use in human and environmental risk assessments.	No additional testing. http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/10111-C.Html

TABLE 1 (Continued)

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Dichloropropane and Dichloropropene	U.S. EPA 2000	- These three short-chain halogenated chemicals are listed on the EPA drinking water candidate contaminant list. - Need for additional data	1,3-Dichloropropane (142-28-9) - Deferred pending receipt of additional information http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/M000063.Html 2,2-Dichloropropane (594-20-7) - Deferred pending receipt of additional information http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/M000064.Html 1,1-Dichloropropene (563-58-6) - Deferred pending receipt of additional information http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/M000065.Html
Dicofol 115-32-2	Private Individual 1995	See Carbaryl, Kelthane (dicofol), Dursban combination exposure	See Carbaryl, Kelthane (Dicofol), Dursban combination exposure
Dicyclohexylcarbodiimide (DCC)/Diisopropylcarbodiimide (DIC)	NCI 1993	- Widespread low-level exposure - Absence of data on health effects	Dicyclohexylcarbodiimide (538-75-0) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/M930062.Html Diisopropylcarbodiimide (693-13-0) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/M930063.Html
Dienaldehydes	NCI 1993	- Contained in a variety of foods and food components where both are regulated as additives and flavoring agents. - Known to be lipid peroxidation products found in meat, vegetable, and fish oils. Several researchers have implied that there would be a link between exposure to lipid peroxidation products and the development of human cancers.	2,4-Hexadienal (142-83-6) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/M930060.Htmltests 2,4-Decadienal (25152-84-5) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/M930061.Html
Diesel Fuel No. 2 68476-34-6	NIOSH 1998	- Occupational exposure - High production volume - Lack of toxicity and carcinogenicity testing data; neurotoxicity effects reported following acute inhalation vapor exposure	Nominated for toxicity and carcinogenicity testing; under review
Diethanolamine 111-42-2	UAW 1994 2000	See Machining Fluid Constituents	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/10534-A.Html See Machining Fluid Constituents
Diethylamine 109-89-7	NIEHS 1997	- High production volume - Ubiquitous natural occurrence in trace amounts - Lack of sufficient chronic study data - Occupational exposure	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/10992-K.Html
Di(2-ethylhexyl)phthalate 117-81-7	ATSDR 2002	- Inadequate information on health effects of a hazardous substance found at a National Priorities List waste site.	Di(2-ethylhexyl)phthalate Nominated for toxicity testing; under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/10188-J.Html Transgenic Model Evaluation (Di{2-Ethylhexyl}Phthalate) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M970048.Html
N,N-Diethylhydroxylamine 3710-84-7	NCI 1999	- High production volume chemical - Significant human exposure potential - Lack of adequate carcinogenicity data	No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/10188-J.Html
Diethylene glycol 111-46-6	Private Individual 1991	See Photographic Fixers and Developers	See Photographic Fixers and Developers
1,2-Difluro-1,1,2,2-tetrachloroethane 76-12-0	NIEHS 1991	See Halogenated Ethanes Class Study	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/M910067.Html See Halogenated Ethanes Class Study
N,N-Diethyl-m-toluamide 134-62-3	NIEHS 1999	- High production volume - Widespread consumer use in commercial insect repellents	Nominated for carcinogenicity testing; under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/134623.Html
2,5-Dimercapto-1,3,4-thiadiazole (DMTD) 1072-71-5	Chemonics industries 1994	- Lack of health-related testing data	Nominated for carcinogenicity testing; under review
Dimethyl adipate 627-93-0	U.S. CPSC 1994	- Widespread and increasing consumer exposure - Potential for occupational exposure - Limited toxicity data available	Deferred pending review of industry studies http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/M940077.Html
Dimethyl disulfide 624-92-0	NCI 1988	- High and increasing production volume - Increasing usage - Identified in various food stuffs, a municipal potable water supply, and in ponds, lakes, and ocean water - Potential for human exposure - Lack of toxicity data	Nominated for carcinogenicity studies; under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/M910023.Html
Dimethylaminopropyl chloride, hydrochloride 5407-04-5	NCI 1995	- Potential for human exposure because of its wide use as an industrial and research organic intermediate - Member of the nitrogen mustard-type chemical class, which is associated with genetic toxicity and DNA-damaging effects	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/M950094.Html

TABLE 1 (Continued)

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Dimethylethanolamine 108-01-0	NIEHS 1997	- Widespread use and exposure potential	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/M200084.Html
Dimethylethylamine 598-56-1	UAW 1994 1998	- Concern about health effects of chemicals and combinations of chemicals (including particulates) found in the industrial environment in substantial levels.	Nominated for toxicity and carcinogenicity testing; under review
Dimethylformamide 68-12-2	Private Individuals 1991 Environmental Defense Fund 1987	- Need for additional studies in combination with heavy metals - High production volume and potential for widespread exposure	No additional testing
Dimethyloldihydroxyethyl-eneurea 1854-26-8	NIEHS 1998	See Methylolurea Class nomination	See Methylolurea Class nomination
Dimethylolurea 140-95-4	NIEHS 1998	See Methylolurea Class nomination	See Methylolurea Class nomination
Dimethylolureadimethylether 141-07-1	NIEHS 1998	See Methylolurea Class nomination	See Methylolurea Class nomination
N,N-Dimethyl-p-toluidine 99-97-8	NCI 2000	- High production volume - Potential for widespread human exposure by inhalation and dermal contact from its use in dental materials and bone cements - Member of a class of chemicals suspected of having carcinogenic activity	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/M000059.Html
Dioxin Toxic Equivalence Factor Studies	NIEHS/U.S. EPA 1995	The use of TEFs to predict carcinogenicity remains an unresolved concept because of the limited database on carcinogenicity of this class of compounds.	Toxic Equivalency Factor Evaluation (TCDD) (1746-01-6): http:// ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M960049.Html Toxic Equivalency Factor Evaluation: Transgenics (1746-01-6): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M020016.Html Toxic Equivalency Factor Evaluation (Pentachlorodibenzo-*p*-dioxin) (40321-76-4): - No testing Toxic Equivalency Factor Evaluation (Pentachlorodibenzofuran) (57117-31-4): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M960051.Html
Dioxin Toxic Equivalence Factor Studies (continued)			Toxic Equivalency Factor Evaluation: Transgenics (57117-31-4) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M020019.Html Toxic Equivalency Factor Evaluation (2,2´,4,4´,5,5´-Hexachlorobiphenyl (PCB 153) (35065-27-1): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M960054.Html Toxic Equivalency Factor Evaluation: PCB Mixture (PCB 126 & 153) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M960055.Html Toxic Equivalency Factor Evaluation: Transgenics (PCB 126) (57465-28-8) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M020018.Html Toxic Equivalency Factor Evaluation: PCB Mixture (PCB 126 & 118) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M970041.Html Toxic Equivalency Factor Evaluation: Dioxin Mixture http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M960056.Html Toxic Equivalency Factor Evaluation (binary mixture): - Chronic gavage on test
Dipentaerythritol 126-58-9	NIEHS 1997	- High production volume - Inadequate or no toxicity studies	Nominated for carcinogenicity; under review
Diphenylamine (*N*-Phenylbenzenamine) 122-39-4	Private Individual 1994	- Health concerns related to dermal and oral exposure - Need to determine toxicity of pure compound	Selected for toxicity testing -Deferred pending review of industry studies http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/11423-T.Html
Diphenolic Acid 126-00-1	NCI 2001	- Expected increase in use and exposure - Very little toxicity information is available	Not being considered for testing at this time

TABLE 1 (Continued)

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
2,2´-Dipyridyl 366-18-7	NCI 1994	- Positive in Ames assay and suspected of being carcinogenic - Precursor of the herbicide, diquat, and a metal chelating agent	Nominated for carcinogenicity testing - No testing
C.I. Disperse Red 60 17418-58-5	NCI 1989	See Dyes	See Dyes
Dyes	NCI 1989	- Most important dye in the rosamine category of xanthene dyes - High potential for human exposure - Interest in determining the activity of the sulfonated rhodamine structure	C.I. Disperse Red 60 (17418-58-5): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M88155.Html C.I. Acid Red 52 (3520-42-1): Nominated for metabolism and carcinogenicity studies; under review C.I. Basic Blue 3 (33203-82-6): Nominated for metabolism and carcinogenicity studies; under review C.I. Vat Yellow 2 (129-09-9): Nominated for metabolism and carcinogenicity studies; under review
Ecdysterone 5289-74-7	NCI 1993	- Concern about the use/abuse of this drug by athletes, body builders and teens - Suspected of being carcinogenic	No testing
Echinacea 90028-20-9	NCI 1998	- Potential for widespread human exposure - Lack of scientific literature supporting its safety or efficacy	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/M990067.Html
Endocrine Disrupter Project	NIEHS 1996	-Lack of data for determining if exposures to environmental chemicals that disrupt endocrine pathways can affect reproduction or the incidence of reproductive tumors.	Endocrine Disrupter (Endosulfan) (115-29-7): -Under review Endocrine Disrupter (Nonylphenol) (104-40-5): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/M960018.Html
Endocrine Disrupter Project (continued)			Endocrine Disrupter (Vinclozolin) (50471-44-8): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/M960020.Html Endocrine Disrupter (Genistein) (446-72-0): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/M960022.Html Endocrine Disrupter (Methoxychlor) (72-43-5): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/M960023.Html Endocrine Disrupter (Ethinyl Estradiol) (57-63-6): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/M980043.Html
Endosulfan 115-29-7	NIEHS 1996 ATSDR 2002	See Endocrine Disrupter Project - Inadequate information on health effects of a hazardous substance found at a National Priorities List waste site.	See Endocrine Disrupter Project Nominated for toxicity testing; selected for metabolism studies http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/10879-S.Html
Ephedrine Alkaloid Dietary Supplements	NCI 2002	- Increased use of herbal products containing ephedrine alkaloids - Part of NIH Office of Dietary Supplements research initiative on safety and efficacy of herbal products - Concern re toxicity of combination herbal products	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/M030001.Html
Epicatechin 490-46-0	Private Individuals 1996	See Naturally Occurring Chemicals in the Diet	See Naturally Occurring Chemicals in the Diet
Epichlorohydrin 106-89-8	State of California EPA (OEHHA) 1995	There are data gaps that should be filled in order to set scientifically based acute and chronic non-cancer reference exposure levels for use in human and environmental risk assessments.	No additional testing; chemical too difficult to procure or handle http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/10512-C.Html
(-)-Epigallocatechin Gallate 989-51-5	NCI 2001	See Green Tea Extract	See Green Tea Extract
Ethanol 64-17-5	Private Individual 1991	See Ethyl Alcohol	See Ethyl Alcohol
Ethanolamine 141-43-5	UAW 1994 Private Individual 1998	See Machining Fluid Constituents	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/11020-K.Html See Machining fluid constituents
Ethanone, 1-(1,2,3,4,5,6,7,8-Octahydro-2,3,8,8-Tetramethyl-2-Naphthalenyl)- 54464-57-2	Private Individual 1999	- Lack of safety data - High exposure level via dermal route and the possibility of absorption	Nominated for subchronic toxicity; under review

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Ethidium bromide 1239-45-8	Private Individual 1994	- Known mutagen - Lack of toxicity and carcinogenicity data - Commonly used for identification of DNA in research settings	No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/M940107.Html
Ethinyl estradiol and/or mestranol	Private Individual 1991	- Oral contraceptive steroids associated with increased incidences of liver neoplasms in women.	Referred to NIEHS functional toxicology group for interest and testing consideration. Ethinyl estradiol (57-63-6) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/M200009.Html
Ethoxyquin 91-53-2	FDA 1990	- Used as an antioxidant in animal feed - Uncertainty concerning its toxicological effects stemming from reports of purported toxicity in dogs - Need for adequate toxicity data to re-evaluate the currently approved levels in animal feed and human food	Industry studies being reviewed before additional NTP testing is undertaken. http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/M88005.Html
Ethyl acetate 141-78-6	Private Individuals 1996	See Naturally Occurring Chemicals in the Diet	See Naturally Occurring Chemicals in the Diet
Ethyl alcohol 64-17-5	NIEHS 1988 Private Individual 1991	- High human exposure - International Agency for Research on Cancer (IARC) concluded that there is sufficient evidence of carcinogenicity from alcoholic beverages in humans - Lack of good animal studies	Ethyl alcohol (64-17-5): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/10042-Y.Html Urethane/Ethanol combination study: http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatu/M920016.Html AZT/Ethanol combination: http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M930042.Html
Ethylbenzene 100-41-4	ATSDR 2002	- Inadequate information on health effects of a hazardous substance found at a National Priorities List waste site.	Nominated for toxicity testing; under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/10018-Y.Html
Ethyl bromoacetate 105-36-2	NCI 1996	- Potential for human exposure through its uses as a chemical intermediate - Lack of chronic toxicity data - Suspicion of carcinogenicity based on its alkylating activity	No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/M960125.Html
Ethyl cyanoacrylate 7085-85-0	NCI 1991	- Widespread use as consumer instant adhesive - Lack of toxicity data - Potential biological activity	No further testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/M920023.Html
Ethyl silicate 78-10-4	NCI 1997	- Potential for occupational exposures - Suspicion of carcinogenicity - Lack of a full battery of genetic toxicity tests and lack of chronic toxicity data	Nominated for carcinogenicity testing - Deferred pending the receipt of additional information
Ethyl vinyl ketone 1629-58-9	NCI 1992	- Widespread human exposure - Limited available test data on this compound - Positive mutagenicity and the formation of DNA-damage adducts	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/M920019.Html
2- Ethyl-1,3-hexanediol 94-96-2	NCI 1992	Limited developmental toxicity studies have been completed, and the results led to EPA's voluntary cancellation of the pesticide registration	Nominated for reproductive and developmental toxicity - Deferred pending an evaluation of an industry study and EPA's risk management assessment. - Negative in *Salmonella*
2-Ethyl-2-hexenal 645-62-5	NIEHS 1997	- High production volumes - Potential for human exposure - Lack of data on carcinogenicity	No further testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/645625.Html
Ethylbenzene 100-41-4	Private Individual 1991	- High production volume - Potential for human exposure - Lack of adequate evaluation for biological or toxicological effects	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/10018-Y.Html
Ethylene 74-85-1	Private Individual 1991	- High production volume - Potential for human exposure - Lack of adequate evaluation for biological or toxicological effects	No further consideration at this time http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/M920039.Html
Ethylenebis(tetrabromoph-thalimide) 32588-76-4	NIEHS 2000	- High production volume - Potential for human exposure as a flame retardant in plastics and fabrics	Nominated for carcinogenicity testing -Deferred pending receipt of industry test data http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/M20288.Html
di-2-Ethylhexanol 68915-36-6	UAW 1994	See Synthetic Polymer Process Emissions	See Synthetic Polymer Process Emissions
2-Ethylhexanol 104-76-7	UAW 1998 2000	See Synthetic Polymer Process Emissions	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/11013-P.Html See Synthetic Polymer Process Emissions

TABLE 1 (Continued)

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
2-Ethylhexyl 2-cyano-3,3-diphenyl acrylate 6197-30-4	NCI 1990	- Nomination resulted from a class study of sunscreen ingredients - Potential for human exposure - Suspicion of carcinogenicity based on structural considerations (presence of 2-ethylhexyl and acrylate moieties)	Withdrawn by nominator based on adequate industry testing. http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/M20247.Html
2-Ethylhexyl *p*-methoxycinnamate 5466-77-3	NCI 1990	- Nomination resulted from a class study of sunscreen ingredients - High usage - Potential for human exposure - Available toxicity studies implicated the chemical as a potential tumor promoter - Suspicion of carcinogenicity based on structural considerations (presence of 2-ethylhexyl and cinnamaic moieties)	Nominated for carcinogenicity studies; under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/M20239.Html
1,1-Ethylidenebis-(tryptophan) 132685-02-0	Private Individual 1997	- Need to determine if microcontaminants were responsible for illnesses such as eosinophilia-myalgia syndrome (EMS)	Nominated for carcinogenicity studies; under review
Fire-Trol PSF (Proprietary Mixture)	Chemonics Industries 1994	- Insufficient data exists on this chemical mixture	No testing
Flea/Tick Pesticides	Private Individual 1995	- Increase in use of these chemicals to eradicate fleas and ticks on dogs	Pyrethrin (584-79-2) No testing; referred to EPA Permethrin (52645-53-1) No testing; referred to EPA Precor (40596-69-8) No testing; referred to EPA Carbamate (302-11-4) No testing; referred to EPA
Flour Dust	UAW 1994	See Organic particulate	See Organic particulate
Fluasterone 112859-71-9	NCI 1998	- Fluasterone may be used in clinical trials. Rigorous testing to demonstrate Fluasterone's safety and efficacy is needed.	Selected for toxicological studies - Deferred; industry sponsor responsible for toxicological testing
Fluorosilicates	Private Individuals 1999 2001 Generation Green or Private Individual 2003	- Use as drinking water fluoridation agent is increasing - Lack of testing data demonstrating its safety	Hexafluorosilicic Acid (16961-83-4) Selected for chemical characterization studies Sodium Hexafluorosilicate (16893-85-9) Selected for chemical characterization studies
Folic acid 59-30-3	Private Individual 1994	Toxicologic effects of excess folate in humans	Nominated for toxicologic effects of excess folate in humans; under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatf/11336-H.Html
Formaldehyde 50-00-0	UAW 1994 Private Individual 1998	See Synthetic Polymer Process Emissions	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatf/10002-S.Html See Synthetic Polymer Process Emissions
Freon 113 76-13-1	UAW 1994 Private Individual 1998	See Organic Solvents	See Organic Solvents
Fuel Additives (ETBE And TAME)	Health Effects Institute 1995	- Use expected to increase with the introduction of reformulated gasoline - Increase in number of people exposed to ethers - Lack of health effects information for ethers such as ETBE and TAME	Nominated for carcinogenicity testing - Deferred pending receipt of industry testing data 2-Methyl-2-ethoxypropane (ETBE) (637-92-3) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/637923.Html tertiary-Amyl methyl ether (TAME) (994-05-8) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M950063.Html
Fumonisin B1 116355-83-0	FDA 1991	- Concern about adverse effects of fumonisins on animal health - Potential toxic effects of fumonisin residues on humans consuming animals exposed to contaminated corn products	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatf/M920002.Html
2-Furancarboxylic acid 88-14-2	Private Individuals 1996	See Naturally Occurring Chemicals in the Diet	See Naturally Occurring Chemicals in the Diet

TABLE 1 (Continued)

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Gallium 7440-55-3	Private Individual 2002	- Potential for wide-spread exposure - Determine if toxicity of indium phosphide and gallium arsenide due to presence of indium and gallium	No further consideration at this time.
Gasoline Exhaust Particulate	UAW 1994 2000 Private Individual 1998	- Diesel particulate is clearly carcinogenic in rats. Parallel studies with gasoline engine exhaust particulate are lacking.	Nominated for carcinogenicity testing; under review
Genistein 446-72-0	NIEHS 1996	See Endocrine Disrupter Project	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/M960022.Html See Endocrine Disrupter Project
Ginkgo Biloba Extract 90045-36-6	NCI 1998	- Potential for widespread exposure through use as a dietary supplement - Some ingredients in GBE are known mutagens	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatg/M990050.Html
Ginseng 50647-08-0 Ginsana™	NCI 1999	- Widespread use as a dietary supplement - Lack of toxicity information - Possibility that ginseng and ginsenosides may have anticarcinogenic activity	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatg/M990057.Html
Glucosamine 3416-24-8	NCI 2003	- Lack of data re possible toxic effects from long-term exposure.	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatg/M030010.Html
Glutaraldehyde 111-30-8	Private Individual 1991	See Photographic Fixers and Developers	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatg/10003-W.Html
Glycidamide 5694-00-8	Private Individual 1992 FDA 2003	- Glycidamide is a metabolic product of acrylamide, a known carcinogen in mice - It would be of great value if carcinogenicity testing could be performed ideally in the same strains of animals as acrylamide See Acrylamide & Glycidamide	No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatg/M930003.Html See Acrylamide & Glycidamide
Glycolic acid 79-14-1	FDA 1997	See Alpha/Beta Hydroxy Acids	See Alpha/Beta Hydroxy Acids
Glycoluril 496-46-8	NCI 1997	- Potential for human exposures in the workplace and in the general population - Lack of toxicity data - Suspicion of carcinogenicity based on potential for nitrosation on one of the ring amino groups to form nitrosamides	Nominated for carcinogenicity -Testing deferred http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatg/M980015.Html
Glyoxal 107-22-2	U.S. EPA 1995	See Water Disinfection By-Products	See Water Disinfection By-Products
Goldenseal 84603-60-1	NIEHS 1998	- Potential for human exposure - Lack of chronic or carcinogenicity data	Goldenseal (84603-60-1) - Powdered root selected for toxicity and developmental toxicity testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatg/M980070.Html Hydrastine (118-08-1) - No testing Berberine (2086-83-1) - No testing Berberine Chloride Dihydrate (5956-60-5) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatb/M990031.Html
Grape Seed And Pine Bark Extracts	NCI 2001	- Widespread use as dietary supplement - The health claims for grape seed and pine bark extracts include studies showing tumor inhibition. Given their potential benefits and the lack of testing data, toxicity testing of these extracts appears warranted.	Grape Seed Extract - No testing Pine Bark Extract - Selected for toxicological studies
Green Tea Extract	NCI 2001	- Under investigation as a cancer chemopreventive agent - Toxicity studies needed to explore the safety profile	Green Tea Extract Epigallocatechin Gallate (989-51-5) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatg/M030008.Html
Halofuginone 64924-67-0	FDA 2002	- Under investigation for therapeutic use in treatment of cancer - Toxicity studies are needed to explore the safety profile of halofuginone.	Nominated for chronic studies; under review

TABLE 1 (Continued)

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Halazone 80-13-7	NIEHS 1988	- Potential for high consumer exposure - Water disinfectant - Lack of chronic toxicity data - Positive in *Salmonella*	No further testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/M200034.Html
Halogenated Aldehydes Class	AWWARF 1991	- Widespread exposure - Lack of adequate carcinogenicity testing	Under consideration with other water disinfection by-product chemicals
Halogenated Ethanes Class Study	NIEHS 1991	Study to examine class of halogenated ethanes	Hexachloroethane (67-72-1): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/M960081.Html Pentachloroethane (76-01-7): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/M960082.Html 1,1,1-Trichloroethane (71-55-6): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/M960084.Html 1,1,1,2-Tetrachloroethane (630-20-6): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/M960085.Html 1,1,2,2-Tetrachloroethane (79-34-5): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/M960086.Html 1,1,2,2-Tetrabromoethane (79-27-6): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/M960087.Html 1,1,1,2-Tetrabromoethane (630-16-0): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/M960088.Html 1,1,1-Trichloro-2,2,2-trifluoroethane (354-58-5): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/M960089.Html 1,2-Dichloro-1,1-difluoroethane (1649-08-7): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/M960079.Html 1,2-Difluro-1,1,2,2-tetrachloroethane (76-12-0): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/M960080.Html Pentabromoethane (75-95-6): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/M960083.Html
Halogenated Ketones Class	AWWARF 1991	- Water disinfection by-product with wide exposure - Lack of adequate carcinogenicity testing	Under consideration with other water disinfection byproduct chemicals
2,2´,4,4´,5,5´-Hexachlorobiphenyl (PCB 153) 35065-27-1	NIEHS/ U.S. EPA 1995	See Dioxin Toxic Equivalence Factor Studies	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M960054.Html See Dioxin Toxic Equivalence Factor Studies
1,3-Hexachlorobutadiene 87-68-3	State of California 2001 ATSDR 2002	- Insufficient data to clearly determine whether 1,3-hexachlorobutadiene is carcinogenic - Inadequate information on health effects of a hazardous substance found at a National Priorities List waste site.	Nominated for toxicity testing; under review. http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/10124-W.Html
Hexachloroethane 67-72-1	NIEHS 1979	See Halogenated Ethanes Class Study	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/10126-E.Html
2,4-Hexadienal 142-83-6	NCI 1993	See Dienaldehydes	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/M930060.Html
Hexamethyldisilazane 999-97-3	Private Individual 1988 1990	- Used in semiconductor industry - Potential for worker exposure - Lack of chronic toxicity data - Potential for significant human exposure - Lack of toxicological data	No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/M882480.Html
n-Hexane 110-54-3	Private Individual 1991	- Continuing interest in health-related effects as well as to potential mechanisms	No further testing; other data available. http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/10189-N.Html
1,6-Hexanediamine dihydrochloride 6055-52-3	UAW 1994 Private Individual 1998	See Synthetic Polymer Process Emissions	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/10293-D.Html

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Hexavalent Chromium Compounds 7789-12-0	California: - Congressman Schiff (10/26/2000) - Drs. Denton and Bonta (2/15/2001) - Congressional Delegation (3/12/2001)	- Definitive data are needed on whether hexavalent chromium administered in drinking water is carcinogenic.	Sodium Dichromate Dihydrate (7789-12-0) studied in place of sodium chromate (7775-11-2) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstats/M010079.Html
trans-2-Hexenal 6728-26-3	Private Individual 1996	See Naturally Occurring Chemicals in the Diet	See Naturally Occurring Chemicals in the Diet
Hydralazine hydrochloride 304-20-1	Private Individual 1997	- Widespread exposure to antihypertensive drug - Suspected of being a carcinogen based on mutagenicity data and positive mutagenicity and carcinogenicity data in animals for structurally related compounds. - Lack of complete and adequate 2-year bioassay data for hydralazine hydrochloride	Nominated for carcinogenicity testing; under review
Hydrastine 118-08-1	NIEHS 1998	See Goldenseal	See Goldenseal
Hydrazine 302-01-2	NASA, Lyndon B. Johnson Space Center 1991	- Shown to cause nasal tumors in rats and possibly lung adenomas in mice; however, the concentrations at which those effects were observed is quite uncertain. - Quality data lacking to set exposure levels for spacecraft as well as ground-based operations	Nominated for carcinogenicity testing; under review
Hydrocyanic acid 74-90-8	Private Individual 1996	See Naturally Occurring Chemicals in the Diet	See Naturally Occurring Chemicals in the Diet
Hydrogen fluoride 7664-39-3	State of California EPA 1995	There are data gaps that should be filled in order to set scientifically based acute and chronic non-cancer reference exposure levels for use in human and environmental risk assessments.	No testing
Hydrogen Sulfide and Sulfide Liberating Compounds	Private Individual 1996	- Highly toxic chemical and no known antidote - Widespread industrial use	Hydrogen sulfide (7783-06-4): Nominated for toxicity; under review
Hydroquinone 123-31-9	Private Individual 1991	See Photographic Fixers and Developers	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/10022-H.Html See Photographic Fixers and Developers
alpha/beta Hydroxy Acids	FDA 1997	- Widespread use of skin care products - Concern about health effects, especially from long-term use - Product manufacturers have not demonstrated the safety and efficacy of the products prior to marketing	Glycolic Acid (79-14-1) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M970035.Html Lactic Acid (50-21-5) Salicylic acid will be tested in place of lactic acid. Salicylic Acid (69-72-7) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M010031.Html
5-(Hydroxymethyl)furfural (HMF) 67-47-0	NIEHS 1995	- 5-(Hydroxymethyl)furfural (HMF) is a thermal decomposition product of sucrose, and has been identified in a wide variety of heat processed foods. HMF has mutagenic and DNA strand breaking activity - No long-term studies have been reported on HMF	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/M950006.Html
Hypericin 548-04-9	NCI 1998	- Increasing usage as a readily available self-medication for depression. It is also widely used to promote the healing of wounds.	Nominated for carcinogenicty - Deferred pending NTP evaluation of industry carcinogenicity testing
Imidacloprid 138261-41-3	Texas Dept. of Health 1995	- Imidacloprid is a new pesticide that is expected to have widespread home and commercial use.	Nominated for toxicity testing -Under review pending receipt of information from the EPA regarding this pesticide
Indium 7440-74-6	Private Individual 2002	- Potential for wide-spread exposure - Determine if toxicity of indium phosphide and gallium arsenide due to presence of indium and gallium.	No further consideration at this time.
Indole 120-72-9	NASA, Lyndon B. Johnson Space Center 1991	- Spacecraft maximum allowable concentrations (SMACS) are required for indole as design criterion for the air revitalization system of the space station - Toxicological database is limited - Old studies indicate leukemogenic	Nominated for carcinogenicity -Under review pending receipt of exposure information.

TABLE 1 (Continued)

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Indole-3-Carbinol 700-06-1	NCI 1999	- Under review at NCI as a chemopreventive agent for breast cancer - Marketed as a dietary supplement with projected rapid growth in sales - Substantial evidence exists that indole-3-carbinol can reduce the risk of cancers induced by several carcinogens when administered to animals.	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstati/M990063.Html
Infrasound	NIEHS 2002	- Public health concerns related to environmental infrasound exposure	No testing
Insect Repellent Class	Private Individual 1991	- Widespread use by military in SE Asia, possible initiator of lupus and similar conditions.	Nominated for carcinogenicity testing; under review
Iodotrifluoromethane (CF_3I) 2314-97-8	Private Individual 1993	- A fire-extinguishing agent being considered for use by the U.S. Air Force as a replacement for halon - No literature is present on the biological effects of the chemical - Computational methods and physical measurements done at Johns Hopkins predict that CF3I would be a potent hepatocarcinogen.	Nominated for carcinogenicity testing; under review
Ionic Liquids	Private Individuals 2003	- Potential for wide-spread exposure if used as replacement solvents for volatile organic compounds -Lack of toxicology data	Nominated for toxicity testing: under review 1-Butyl-3-methyl-imidazolium Chloride (79917-90-1) n-Butyl-pyridinium Chloride (1124-64-7) 1-Butyl-1-methyl-pyrrolidinium Chloride (479500-35-1)
Ipomeamarone 494-23-5	Private Individuals 1996	See Naturally Occurring Chemicals in the Diet	See Naturally Occurring Chemicals in the Diet
Iron	Private Individual 1994	- Potential for widespread exposure; common contaminant in ground water and drinking water, common food additive and occupational hazard. - Recent studies indicate serious health effects from excess iron. - Increases the toxicity of dioxin by 100%	Nominated for toxicity testing; under review
Irradiated Meats	Private Individual 2000 2003	- Based on recent proposals to alter labeling requirements for irradiated foods (changing 'irradiated' to 'electronic pasteurization'), it is important that the NTP provide relevant data on this issue. - Additional testing needed to assess safety of these foods	Nominated for toxicity testing; under review
Isoamyl acetate 123-92-2	NIEHS 1994 Private Individual 1996	- High production volume - Widespread use as a food additive - Previously reported oral and subchronic studies of isoamyl acetate in Wistar rats indicated a possible carcinogenic response	No further testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstati/123922.Html
Isoamyl nitrite 110-46-3	NCI 1989	- Used as a street drug - Potential for high human exposure - Lack of epidemiological data and adequate toxicity studies in animals	Nominated for carcinogenicity; under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstati/10870-G.Html
Isobutyl alcohol 78-83-1	Private Individual 1996	See Naturally Occurring Chemicals in the Diet	See Naturally Occurring Chemicals in the Diet
Triallyl isocyanurate 1025-15-6	NIEHS 1998	- Lack of toxicity data - Moderate volatility which enhances the potential for exposure - Potential release of allyl alcohol during the formulations of some rubber compounds	No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M88047.Html
Isocyanuric acid 108-80-5	NIEHS 1997	- Widespread exposure of the general population through use in formulation for common household cleaners, and for swimming pool disinfection	No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstati/10526-A.Html
Isophorone 78-59-1	NIOSH 1990	- Potential for occupational exposure - Lack of epidemiological studies and animal inhalation toxicity data - Evidence of carcinogenicity in male mice and rats in a 2-year gavage study	Nominated for inhalation studies; not being considered at this time http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstati/10070-P.Html
Isopropenyl acetate 108-22-5	NCI 1995	- Potential for human exposure based on its use pattern	No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstati/M950095.Html
Isopropylamine 75-31-0	NIEHS 1997	- High production volume - Ubiquitous natural occurrence - Lack of chronic study data	No further consideration at this time http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstati/11259-F.Html

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Juglone 481-39-0	NCI 2000	- Potential chemotherapeutic or chemopreventive agent	Juglone (Pure) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatj/M000012.Html Black Walnut Extract/Juglone http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatb/M010048.Html
Kahweol 6894-43-5	Private Individual 1998	- Ability to raise cholesterol levels in humans and to activate the nuclear receptor FXR	No testing
Kava Kava Extract 9000-38-8	NCI 1999	- Widespread use - Promoted as a substitute for ritilin in children - Insufficient toxicity data available	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatk/M990058.Html
Lactic acid 50-21-5	FDA 1997	See Alpha/Beta Hydroxy Acids	No testing; salicylic acid (69-72-7) will be tested in place of lactic acid.
Lemon Oil and Lime Oil	FDA 2001	- Widespread consumer exposure from use of fragrances and cosmetics containing lemon and lime oil - Studies have shown that lemon and lime oil are phototoxic. - Safe use levels have been recommended for avoiding short-term phototoxicity, but long-term use and effects have not been addressed.	Lemon Oil (8008-56-8) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatl/M010008.Html Lime Oil (8008-26-2) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatl/M010009.Html
Leucomalachite Green 129-73-7	FDA 1993	See Malachite Green	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatl/M960026.Html See Malachite Green
Lidocaine 137-58-6	NCI 1992	- Significant human exposure; widely used as local anesthetic and arrhythmic agent - Lack of carcinogenicity data	No testing
Linalool 78-70-6	NCI 1997	- High production volume - Widespread human exposure - Unknown potential for adverse health effects from long-term administration - Significant occupational exposure	Deferred pending results from citral and beta-myrcene studies http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatl/M980012.Html
Lindane 58-89-9	University of Cincinnati 1994	See Pesticides and Herbicides	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatl/10865-T.Html See Pesticides and Herbicides
Local Anesthetic Compounds	Private Individual 1994	- Need for evaluation in long-term studies - Concern re metabolic conversion to aniline	Acetaminophen (4-Hydroxyacetanilide) (103-90-2): - No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/10127-H.Html Metronidazole (443-48-1): - No testing; IARC has classified as a Group 2B http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/M20136.Html Lidocaine (137-58-6): - No testing Mepivicaine (96-88-8): - No testing Buvicaine (2108-82-9): - No testing Prilocaine (721-50-6): -http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M950010.Html Procaine (59-46-1): - Received Propoxycaine (550-83-4): - Received Benzocaine (94-09-7): - Received Cocaine (50-36-2): - No testing Articaine (23964-58-1): - Received
Luminol 521-31-3	Private Individual 1996 1997	- Used as a forensic tool for locating trace blood residues at the crime scene - Lack of toxicity testing	No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatl/11551-P.Html

TABLE 1 (Continued)

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Machining Fluid Constituents	UAW 1994 1998 2000	-Concern about health effects of chemicals and combinations of chemicals (including particulates) found in the industrial environment in substantial levels.	Mineral Oil (8012-95-1) - In review Petroleum Sulfonates (61789-85-3) - In review Triethanolamine (102-71-6) - In review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/10496-A.Html Ethanolamine (141-43-5) - In review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/11020-K.Html Non-Ionizing Surfactants - In review
Magnesium Oxide 1309-48-4	NCI 2002	- High production volume - Significant worker exposure	No testing
Malachite Green 569-64-2	FDA 1993	- Strong potential for bioaccumulation in fish grown for human consumption - Potential for exposure through recreational activities and drinking water	Malachite green (569-64-2) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/M930019.Html Malachite green oxalate (2437-29-8): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/M940073.Html Leucomalachite green (129-73-7): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatl/M960026.Html
Malachite Green oxalate 2437-29-8	FDA 1993	See Malachite Green	See Malachite Green
Malathion 121-75-5	Private Individual 1994	See Pesticides	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/10563-V.Html See Pesticides
Maleic Anhydride 108-31-6	State of California EPA 1995	- Lacks acute exposure data	No additional testing. http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/10519-E.Html
Marijuana Smoke 8063-14-7	Private Individual 1996 2000	- Need to investigate health effects - Carcinogenic potential of marijuana smoke	No further consideration at this time.
MBT (2-Mercaptobenzo-thiazole) 149-30-4	Private Individual 1994	- Used in the formulation of pesticides - Need for additional animal testing	No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/10073-C.Html
Medicinal Herbs	Private Individual 1997	- Potential for widespread exposure to herbal products - Toxicity of ingredients should be tested	Nominated for toxicity testing; under review
Melatonin 73-31-4	NIEHS 1996	- Potential for widespread exposure from use as an over-the-counter hormone supplement as well as being used as a chemotherapeutic agent in cancer. - Lack of toxicity testing including ocular toxicity	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/M940069.Html Prevention 1 (Melatonin) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M980067.Html Prevention 2 (Melatonin) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M990028.Html Prevention 3 (Melatonin) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M000021.Html Prevention 4 (Melatonin) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M000041.Html Prevention 5 (Melatonin) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M000075.Html
Menthofuran 494-90-6	NIEHS 1998	- Potential for human exposure; component of pennyroyal - Lack of carcinogenicity data	No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/M980046.Html
Menthyl anthranilate 134-09-8	NCI 1990	- Nomination resulted from a class study of sunscreen ingredients - Used in many combination products - Potential for human exposure - Lack of toxicity data	Nominated for carcinogenicity studies; in review - Consult with FDA concerning all sunscreens
Mepivicaine 96-88-8	Private Individual 1994	See Local anesthetic compounds	See Local anesthetic compounds
Metals	UAW 1994	-Concern about health effects of chemicals and combinations of chemicals (including particulates) found in the industrial environment in substantial levels.	Welding fume (copper, zinc, lead oxide) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatw/M020021.Html Cobalt dust http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/10204-K.Html

TABLE 1 (Continued)

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Metal Working Fluids	NIOSH 2001	- High production volume - Potential for significant occupational exposure - Lack of carcinogenicity and chronic toxicology data for this class of mixtures	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/M010077.Html
Methanol 67-56-1	U.S. EPA 1989 Private Individual 1991	- Potential for significant human exposure if methanol is used as an alternative fuel for vehicles - Data needed to determine the toxicity of methanol at low environmental levels of exposure and to evaluate health effects	No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/67561.Html
Methoxychlor 72-43-5	NIEHS 1994 1996	See Pesticides and Kids See Endocrine Disrupter Project	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/10863-K.Html
Methyl bromide 74-83-9	State of California EPA 1995	- Testing needed to fill data gaps in order to set scientifically based acute and chronic non-cancer reference exposure levels for use in human and environmental risk assessments.	No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/10399-G.Html
Methyl ethyl ketone peroxide 1338-23-4	UAW 1994 Private Individual 1998	-Concern about health effects of chemicals and combinations of chemicals (including particulates) found in the industrial environment in substantial levels.	No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/10001-N.Html
Methyl glyoxal 78-98-8	U.S. EPA 1995	See Water Disinfection By-Products	See Water Disinfection By-Products
Methyl Soyate 67784-80-9	NCI 2001	- Exposure may increase if methyl soyate is used as an industrial solvent to substitute for chlorinated hydrocarbon and fluorocarbon solvents. - Lack of toxicity testing	Deferred pending receipt of additional information http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/M010063.Html
Methyl styryl ketone 122-57-6	NCI 1994	- Potential for worker and consumer exposure - Positive in Ames assay in strain TA100 with S-9 activation	No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/M940148.Html Methyl *trans*-styryl ketone (1896-62-4): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/M950108.Html
Methyl *tert*-butyl ether 1634-04-4	NCI - 1986 NIOSH - 1989 State of Alaska-1994 UAW - 2000 NIEHS & EPA – 2000	- Potential for worker and consumer exposure - Lack of animal toxicity data - Adverse health effects	Deferred pending receipt of industry testing data http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/1634044.Html
2-Methyltetrahydrofuran 96-47-9	NCI 2001	- Use as an alternative fuel is expected to increase - Lack of toxicity testing	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/M010064.Html
Methyl vinyl ketone 78-94-4	NCI 1992	- Suspicion of carcinogenicity	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/78944.Html
3-Methyl-1,2-benzenediol 488-17-5	Private Individuals 1996	See Naturally Occurring Chemicals in the Diet	See Naturally Occurring Chemicals in the Diet
2-Methyl-2-ethoxypropane (ETBE) 637-92-3	Health Effects Institute 1995	See Fuel additives	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/637923.Html
Methylal 109-87-5	NCI 1997	- High production volume and potential for occupational exposures - Potential for general population exposures based on use as a solvent in consumer products and occurrence in environment - Suspicion of carcinogenicity based on potential for metabolic release of formaldehyde and positive mutagenicity data - Lack of chronic toxicity data	Deferred pending receipt of production, use, exposure, and health effects data http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/M980016.Html
Methylamine 74-89-5	Private Individuals 1996 NCI 1996	- Potential for occupational and consumer exposure - Suspicion of carcinogenicity - High production volume chemical present in many consumer products and the environment	Not under consideration at this time http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/M200021.Html
Methylene Blue	NCI 1989	- Widely used to treat manic depressives and to counteract nitrate poisoning - High potential for human and animal exposure - Lack of adequate toxicity data	Methylene Blue (61-73-4) No testing Methylene Blue Trihydrate (7220-79-3) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/M90016.Html

TABLE 1 (Continued)

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
4-Methylimidazole 822-36-6	NCI-CSWG 1991	- Widespread use in food products - Potential for widespread exposure - Lack of chronic toxicity data - Suspicion of carcinogenicity	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/M920025.Html
Methylolurea Class Study	NIEHS 1998	- High production volumes (including urea-formaldehyde resins which contain methylolurea or dimethylolurea as impurities) - Potential for human exposure - Lack of carcinogenicity data	Methylolurea (1000-82-4) - No testing at this time Dimethyloldihydroxyethyleneurea (1854-26-8) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/10205-P.Html Dimethylolurea (140-95-4) - No further consideration at this time Dimethylolurea dimethyl ether - No further consideration at this time
N-Methylpyrrolidone (*N*-methyl-α-pyrrolidinone) 872-50-4	Private Individual NIEHS U.S. CPSC 1988	- High production volume - Worker exposure - Used in semi-conductor industry - Potential for increased use as a solvent - Lack of chronic toxicity data	Referred to EPA for industry testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/M20172.Html
Metronidazole 443-48-1	Private Individual 1994	See Local anesthetic compounds	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/M20136.Html
Microcystin LR 101043-37-2	NIEHS 2000	-Drinking water contaminant with high health research priority.	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/M000056.Html
Milk Thistle Extract 84604-20-6	NCI 1999	- Used as a dietary supplement; potential for widespread consumer exposure - Limited information on its safety	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/M990059.Html
Mineral Oil 8012-95-1	UAW 1994 Private Individual 1998	See Machining fluid constituents	See Machining fluid constituents
Mineral Particulate	UAW 1994 2000	- Concern re chemicals in the workplace	Talc (14807-96-6): under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/10167-P.Html
Mold	Private Individual 2002	- Data needed on the long-term health effects caused by inhalation of mold	Nominated for toxicity testing; under review
Monoethanolamine (Ethanolamine) 141-43-5	Private Individual 1991	- Widely used in cosmetic preparations and other commercial products - Caused toxic responses at multiple organ sites in prechronic studies	No further testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/11020-K.Html
Myristicin 607-91-0	NCI 1997	- Potential for widespread human exposure through foods and beverages - Limited testing data - May have the potential to be both a carcinogen and an anti-carcinogen	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/M980013.Html
Nanoscale Materials	Rice University Center for Biological & Environmental Nanotechnology (2003)	- Potential for widespread exposure in the future - Insufficient toxicology data to assess potential health risk	Selected for toxicological characterization
1-Naphthylamine 134-32-7	Private Individual 1991	- High production volume - Potential for widespread exposure - Continuing interest in health effects	Nominated for carcinogenicity testing; under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/10583-K.Html

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Naturally Occurring Chemicals in the Diet	Private Individuals 1996	- Naturally occurring chemicals in the diet have not been a focus of research - Since regulatory agencies are considering a change in the standard protocol from *ad libitum* feeding to dietary restriction, it is important to know what impact that change will have on carcinogenicity sensitivity.	Caffeine (58-08-2): No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/10036-G.Html alpha-Chaconine (20562-03-2): Defer testing pending results of alpha-solanine testing Chlorogenic acid (327-97-9): No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M960036.Html *p*-Coumaric Acid (7400-08-0): No testing Epicatechin (490-46-0): In review Ethyl acetate (141-78-6): No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/141786.Html 2-Furancarboxylic acid (88-14-2): No testing trans-2-Hexenal (6728-26-3): No testing [Hydrogen cyanide] Hydrocyanic acid (74-90-8): No testing Ipomeamarone (494-23-5): In review Isoamyl alcohol (123-51-3): No testing Isobutyl alcohol (78-83-1): No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstati/78831.Html Methylamine (74-89-5): In review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/M200021.Html 3-Methyl-1,2-benzenediol (488-17-5): No additional testing Oxalic acid (144-62-7): No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstato/10049-C.Html Phenethyl alcohol (60-12-8): No testing Piperine (7780-20-3): No testing Propyl alcohol (71-23-8): No testing
Naturally Occurring Chemicals in the Diet (continued)			Pyrogallol (87-66-1): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M960044.Html alpha-Solanine (20562-02-1): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstats/M960041.Html Theobromine (83-67-0): In review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/83670.Html Trigonelline (535-83-1): Withdrawn http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M960038.Html

TABLE 1 (Continued)

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Nickel Salts (Soluble And Insoluble)	Department of Health Services, Health and Welfare Agency, State of California 1990	- Need for studies to ascertain the carcinogenic potential of nickel compounds by the oral route - Need dose-response data for low dose extrapolation to establish health-based exposure criteria for humans environmentally exposed to nickel	Nickel sulfate hexahydrate (10101-97-0): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatn/10207-X.Html Nickel subsulfide (12035-72-2): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatn/11234-V.Html Nickel (II) oxide (1313-99-1): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatn/11198-D.Html
Nitrapyrin 1929-82-4	NIEHS 1999	- High production volume - Potentially high human exposure.	Not being considered for testing at this time http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M20194.Html
5-Nitroindazole 5401-94-5	NCI 1994	- Need to understand the chronic health effects related to exposure to photographic chemical mixtures.	No testing
4-(N-Nitroso-N-Methylamino)-1-(3-Pyridyl)-1-Butanone 64091-91-4	UAW 1994	See Tobacco-specific N-nitrosamines	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatn/M910041.Html
Non-Ionizing Surfactants	UAW 1994 Private Individual 1998	See Machining Fluid Constituents	See Machining Fluid Constituents
Nonylphenol 104-40-5	NIEHS 1996	See Endocrine Disrupter Project	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatn/M950038.Html See Endocrine Disrupter Project
Octachloronaphthalenes	NCI 1996	-Nominated for an estrogenic activity screen and induction of p450 studies. - Potential for bioaccumulation - Widespread exposure - Formation from incineration of products containing OCN.	Octachloronaphthalene (2234-13-1) - Withdrawal pending http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstato/M20205.Html 1,2,3,4,6,7-Hexachloronaphthalene (PCN 66) 103426-96-6 - Selected for testing in combination with 1,2,3,5,6,7-Hexachloronaphthalene (PCN 67) 103426-97-7 http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M030031.Html
1-Octene 111-66-0	NIEHS 1995	- High production volume - Potential for worker exposure - Lack of adequate toxicity and carcinogenicity data	No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstato/M950097.Html
Omeprazole 73590-58-6	Private Individual 1991	- Widespread exposure; used as an anti-ulcer drug. - Investigate the genotoxic and/or cell proliferative effects	Not being considered at this time
Organic Particulate	UAW 1994 2000	- Concern about health effects of chemicals and combinations of chemicals (including particulates) found in the industrial environment in substantial levels.	Nominated for toxicity testing; under review Wood dust Flour dust
Organic Solvents	UAW 1994 2000	- Concern about health effects of chemicals and combinations of chemicals (including particulates) found in the industrial environment in substantial levels.	Trichloroethylene (79-01-6): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/10175-P.Html 1,1,1-Trichloroethane (Methyl chloroform) (71-55-6): No additional testing. http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/10390-W.Html Stoddard Solvent Type IIC, (64742-88-7): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstats/M960014.Html Freon 113 (76-13-1): In review
Organotins	NIEHS and U.S. EPA 2000	- High priority for health research needs - Lack of toxicity and mechanistic data on the organotins occurring in drinking water	Selected for toxicity studies -Deferred ; EPA reviewing chemicals Di-N-Butyltin Dichloride (683-18-1): Dimethyltin Dichloride (753-73-1): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/M940014.Html Monobutyltin Trichloride (1118-46-3): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/M000066.Html Trichloromethylstannane (993-16-8): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M990039.Html
Orthanilic acid 88-21-1	NIEHS 1997	- Limited toxicological information available	No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstato/11441-C.Html
Oxalic acid 144-62-7	Private Individuals 1996	See Naturally Occurring Chemicals in the Diet.	See Naturally Occurring Chemicals in the Diet: http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstato/10049-C.Html

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
10,10'-Oxydiphenoxarsine 58-36-6	Private Individual 1996	- Investigate the relationship between the chemical's structure and its potential carcinogenicity.	Nominated for carcinogenicity testing; under review
Paint Dust	UAW 1994	See Synthetic Polymer Process Emissions	See Synthetic Polymer Process Emissions
Paint Mist Solids	UAW 1994 Private Individual 1998	See Synthetic Polymer Process Emissions	See Synthetic Polymer Process Emissions
Parathion 56-38-2	Private Individual 1994 NIEHS 1994	See Pesticides and Kids	See Pesticides and Kids http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/10942-W.Html
PCB 126 57465-28-8	NIEHS/ U.S. EPA 1995	See Dioxin Toxic Equivalence Factor Studies	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M950120.Html See Dioxin Toxic Equivalence Factor Studies
2,2',4,4',5-Pentabromodiphenyl ether 60348-60-9	Private Individual 1998	- Bioaccumulative properties and the possibility for widespread human exposure - Lack of subchronic and chronic toxicity information and a suspicion of neuro-developmental toxicity.	Selected for ADME studies
Pentabromoethane 75-95-6	NIEHS 1991	See Halogenated Ethanes Class Study	See Halogenated Ethanes Class Study http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M910068.Html
Pentachlorodibenzofuran 57117-31-4	NIEHS/ U.S. EPA 1995	See Dioxin Toxic Equivalence Factor Studies	See Dioxin Toxic Equivalence Factor Studies http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M960051.Html
Pentachlorodibenzo-*p*-dioxin 40321-76-4	NIEHS/ U.S. EPA 1995	See Dioxin Toxic Equivalence Factor Studies	No testing See Dioxin Toxic Equivalence Factor Studies
Pentachloroethane 76-01-7	NIEHS 1991	See Halogenated Ethanes Class Study	See Halogenated Ethanes Class Study http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/M960082.Html
N-Pentanal (Valeraldehyde) 110-62-3	NCI 1997	- High production volume (25-100 million lbs) - Potential for widespread consumer and worker exposure - Suspicion of carcinogenicity based on short-term test results and aldehyde structure - Lack of chronic toxicity data.	Nominated for toxicity testing; under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M88087.Html
Perchloromethyl mercaptan 594-42-3	NIEHS 1988	- High production volume - Worker exposure - Lack of chronic toxicity data - Structural interest	No additional testing; refer to ITC http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M20149.Html
Perfluorinated Compounds	Private Individual 1990 EPA 2003	- Determine carcinogenicity potential - Potent peroxisome proliferators and induce 8-hydroxydeoxyguanosine in the livers of treated rats -Widespread exposure -Pharmacokinetic studies will be conducted first to help determine which chemicals and toxicity testing to select	Nominated for toxicity studies; under review. Perfluorodecanoic acid (335-76-2): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M920006.Html Perfluorooctanoic Acid (335-67-1): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M910070.Html 1H,1H,2H,2H-Perfluorodecanol (678-39-7) Perfluorooctane Sulfonic Acid (1763-23-1) Perfluorohexane Sulfonic (355-46-4) Perfluorobutane Sulfonic Acid (375-73-5)
Perfluorodecanoic acid 335-76-2	Private Individual 1990	See Perfluorinated Compounds	See Perfluorinated Compounds http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M920006.Html
Perfluorooctanoic acid 335-67-1	Private Individual 1990	See Perfluorinated Compounds	See Perfluorinated Compounds http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M910070.Html
Pesticides	Private Individual 1994	Investigate the relationship between pesticides and breast cancer, the link between pesticides and lowered sperm counts, and the feminization of bird/fish/mammal species.	No additional testing. Dichlorodiphenyltrichloroethane (DDT) (50-29-3): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/10352-X.Html Malathion (121-75-5): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/10563-V.Html Parathion (56-38-2): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/10942-W.Html

TABLE 1 (Continued)

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Pesticides	Private Individual 2000	-Widespread use and misapplication. - Chlordane, although banned, persists in the environment and in homes that were sprayed with it. - More recent applications of Dursban and diazinon in these same homes has created a complex mixture of poisons. - New information regarding the action of endocrine disruptors makes this group of poisons appropriate chemicals for study.	Chlordane (12789-03-6): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/10849-T.Html Dursban (2921-88-2): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M90011.Html Diazinon (333-41-5): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/10611-D.Html
Pesticides and Herbicides	University of Cincinnati 1994	- Potential carcinogenic effects of pesticides and herbicides. - Circumstantial evidence puts new suspicion on these chemicals.	No testing. Dichlorodiphenyltrichloroethane (DDT) (50-29-3): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/10352-X.Html p,p´-Dichlorodiphenoldichloroethylene (72-55-9): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/10393-H.Html Lindane (58-89-9): No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatl/10865-T.Html
Pesticides and Kids	NIEHS 1994	- Investigate the long-term effects of perinatal exposure to pesticides.	Trichlorfon (52-68-6): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/10360-X.Html Parathion (56-38-2): No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/10942-W.Html Kid Pest Project (Carbaryl) (63-25-2): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatk/M950062.Html Atrazine (1912-24-9): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M20327.Html Chlorpyrifos (Dursban) (2921-88-2): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M90011.Html Kid pest project (Methoxychlor) (72-43-5): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatk/M940071.Html
Petroleum Sulfonates 61789-85-3	UAW 1994 1999 Private Individual 1998	See Machining Fluid Constituents	See Machining Fluid Constituents
Phenethyl alcohol 60-12-8	Private Individuals 1996	See Naturally Occurring Chemicals in the Diet	See Naturally Occurring Chemicals in the Diet
Phenol 108-95-2	Private Individual 1991	- High production volume with potential of widespread exposure	No further testing. http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/10076-N.Html
Phenol-Formaldehyde Resin Dust 9003-35-4	UAW 1994 Private Individual 1998	See Synthetic Polymer Process Emissions	See Synthetic Polymer Process Emissions; in review
Phenothiazine 92-84-2	NIEHS 1997	- High production volume - Limited toxicological information	Withdrawn http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M200052.Html
3-(Phenylamino)alanine 145545-23-9	Private Individual: 1997	- Use of the dietary supplement L-tryptophan may be related to the development of illnesses such as eosinophilia-myalgia syndrome (EMS).	Nominated for carcinogenicity testing; under review
4-Phenylcyclohexene 4994-16-5	Private Individual 1990	- Byproduct formed during the manufacture of latex carpet backings - Chemical is suspected of off gassing after carpet installation and may cause the "sick building syndrome"	Nominated for toxicity studies; under review
Phenylglyoxal 1074-12-0	NCI 1995	- Potential for exposure associated with use as a reagent. - Shown to be mutagenic - Member of the ketoaldehydes chemical class, which has not been adequately tested for carcinogenicity.	Nominated for carcinogenicity testing Deferred pending receipt of additional information. http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M950096.Html
Phosphine 7803-51-2	NCI 1989 1992	- High production volume - High worker exposure - Predicted sharp increase in its use as a grain fumigant. - Increased risk of workers developing non-Hodgkin's lymphoma	No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M90018.Html

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Photographic Fixers and Developers	Private Individual 1991	- Determine health effects of group of chemicals to which workers in photographic and radiologic industries are exposed.	Glutaraldehyde (111-30-8): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatg/10003-W.Html Hydroquinone (123-31-9): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/10022-H.Html Silver nitrate (7761-88-8): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstats/10300-A.Html Diethylene glycol (111-46-6): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/10993-P.Html
Photographic Fixers and Developers (continued)			Acetic acid (64-19-7): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/64197.Html Potassium hydroxide (1310-58-3): - No testing Sodium acetate (127-09-3): - No testing Sodium borate (1303-96-4): - No testing Ammonium sulfate (10043-01-3): - No testing Aluminum sulfate (7783-20-2): - No testing
3-Picoline 108-99-6	NIEHS 1999	- High U.S. production volume - Potential for human exposure - Inadequate toxicity information.	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/10530-J.Html
Pilocarpine 92-13-7	FDA 1999	- Potential orphan drug	Withdrawn by nominator.
alpha-Pinene (80-56-8)	UAW 2000	See Turpentine	See Turpentine
Piperine 7780-20-3	Private Individuals 1996	See Naturally Occurring Chemicals in the Diet	See Naturally Occurring Chemicals in the Diet
Polybrominated Diphenyl Ethers	State of California EPA and Private Individual 1998 1999 2000	- Bioaccumulate in animal and human tissues - Disrupt thyroid hormone balance - Appear to be neurodevelopmental toxicants	Pentabromodiphenyl ether (technical) (32534-81-9) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M20287.Html Octabromodiphenyl ether (technical) (32536-52-0) 2,2',4,4'-Tetrabromodiphenyl ether (5436-43-1) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M980090.Html 2,2',4,4',5-Pentabromodiphenyl ether (60348-60-9) 2,2',4,4',5,5'-Hexabromodiphenyl ether (68631-49-2) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/M010078.Html
Polybrominated Diphenyl Ethers (Mixture)	Private Individual 1998	- PBDE levels have been exponentially increasing in Sweden - Potential for bioaccumulation	Nominated for carcinogenicity testing; under review
Polychlorinated Biphenyl 1336-36-3	ATSDR 2002	- Inadequate information on health effects of a hazardous substance found at a National Priorities List waste site.	Nominated for toxicity testing; under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/10703-H.Html
Polyester-Polystyrene Dust [In Combination With Fibrous Glass]	UAW 1994 Private Individual 1998	See Synthetic Polymer Process Emissions	See Synthetic Polymer Process Emissions
Potassium hydroxide 1310-58-3	Private Individual 1991	See Photographic Fixers and Developers	See Photographic Fixers and Developers
Potassium Ferricyanide 13746-66-2	NCI 2000	- Potential for widespread exposure of workers and consumers.	Selected for genotoxicity and subchronic toxicity testing. http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M000014.Html
Powdered Root of Goldenseal	NIEHS 1998	- Potential for human exposure associated with use as a dietary supplement - Lack of chronic or carcinogenicity data.	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatg/M980070.Html

TABLE 1 (Continued)

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Power-Line Frequency Electric And Magnetic Fields	Electric Power Research Institute 1989	- Recent epidemiological studies weakly support an association between exposure to magnetic fields and the incidence of cancer in both residential and occupational environments. - Data from carcinogenicity studies needed to resolve public health concerns about the possible effects of electric and magnetic fields on human health	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/M90023.Html
Prednisone 53-03-2	NCI 1991	- Significant human exposure; commonly prescribed anti-inflammatory - Lack of adequate carcinogenesis data	No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/10936-E.Html
Premarin 12126-59-9	Private Individual 1991	- Epidemiological evidence for carcinogenicity inconclusive - Widespread use by post-menopausal women	No testing
Prilocaine 721-50-6	Private Individual 1994	See Local anesthetic compounds	See Local anesthetic compounds
Procaine 59-46-1	Private Individual 1994	See Local anesthetic compounds	See Local anesthetic compounds http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M950010.Html
Propargyl alcohol 107-19-7	NCI 1996	- High production volume - Potential for human exposure - Suspicion of carcinogenicity - Chronic toxicity data is lacking.	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M960126.Html
Propoxycaine 550-83-4	Private Individual 1994	See Local anesthetic compounds	See Local anesthetic compounds
Propyl alcohol 71-23-8	Private Individuals 1996	See Naturally Occurring Chemicals in the Diet	See Naturally Occurring Chemicals in the Diet
Propylene glycol mono *tert*-butyl ether 57018-52-7	CPSC 1988	- Potential for increased use - Potential substitute for some ethylene glycol based ethers, which are known teratogens - Potential for widespread exposure at high levels - Lack of adequate toxicity data	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M90029.Html
Pulegone 89-82-7	NIEHS 1998	- Potential for human exposure - Lack of carcinogenicity data	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M980045.Html
Pyridostigmine bromide 101-26-8	NCI 1995	- Concern about possible link to the unexplained illness of Gulf War veterans.	No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M950099.Html
Pyrogallol 87-66-1	Private Individuals 1996	See Naturally Occurring Chemicals in the Diet	See Naturally Occurring Chemicals in the Diet http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatp/M960044.Html
Resveratrol 501-36-0	NIEHS 2001	- Marketed in pure or extract form as a dietary supplement - Numerous reported beneficial effects but toxicity is poorly characterized.	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatr/M010090.Html
All-trans-retinyl palmitate 79-81-2	FDA 2001	- Increasing widespread use of this compound in cosmetic retail products for use on sun-exposed skin - Need to investigate the biochemical and histological cutaneous alterations elicited by retinyl palmitate and the association between topical application of retinoids and enhancement of photocarcinogenesis.	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatr/M010012.Html
Retroviral Vectors	NIEHS 1991	- To study the long-term effects of experimental treatment of immune deficiency disorders	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatr/M910057.Html
Rosin 8050-09-7	NCI 1989	- High production volume - Used in a variety of consumer products - Potential for significant human exposure - Carcinogenic potential is unknown	Nominated for tumor promotion studies; not under consideration at this time.
Salicylic Acid 69-72-7	FDA	See lactic acid	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M010031.Html
Saw Palmetto	Private Individual 1997	- Increasing use of herbal dietary supplement being promoted as a prostate hypertrophy preventative agent, and as a therapy for this condition. - Some clinical data show beneficial effects greater than those from prescription medications, with very good tolerance. - Lack of long-term and carcinogenicity testing data	Deferred Saw Palmetto Extract (84604-15-9) beta-Sitosterol (83-46-5) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstats/M980040.Html

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Senna (Powdered) 8013-11-4	FDA 1999	- The safety of laxatives is currently being reassessed by the FDA as a result of the testing of phenolphthalein for carcinogenicity in rodents. -Positive in the Ames test, and a preliminary 2-year rat study showed an increase in lymph node hyperplasia.	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstats/Emtdp28.Html
Sesamol 533-31-3	NCI 1989	- Potential for human exposure to sesamol as a common constituent of sesame oil - Lack of adequate toxicity data	No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstats/M90020.Html
Silica, Biogenic	Private Individual 1988	- Potential for widespread environmental contamination - Respirable size silica fibers identified in smoke from sugar cane burning - Reports of toxic effects associated with sugar cane farming (e.g., mesothelioma, leukemia)	Nominated for toxicity testing -Deferred for additional information
Silica, Crystalline-Quartz 14808-60-7	State of California Dept. of Health Services, Health and Welfare Agency 1991 NIEHS 1994	- Widespread occurrence and human exposure - Need to substantiate carcinogenicity	Silica, crystalline - quartz (14808-60-7) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstats/M920041.Html
Silicones (Class Study)	Private Individual 1994	- Testing performed in the 1960s and 1970s is inadequate - Investigate immunotoxicity	No testing at the present time.
Simazine 122-34-9	NIEHS 1992	See Acetochlor	Selected
beta-Sitosterol 83-46-5	Private Individual 1997	See Saw Palmetto	See Saw Palmetto http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstats/M980040.Html
Sodium acetate 127-09-3	Private Individual 1991	See Photographic Fixers and Developers	See Photographic Fixers and Developers
Sodium benzoate 532-32-1	Private Individual 2001	- Widespread use as a food additive - Could be a health hazard if it is carcinogenic.	Not being considered for testing
Sodium borate 1303-96-4	Private Individual 1991	See Photographic Fixers and Developers	See Photographic Fixers and Developers
Sodium bromate 7789-38-0	U.S. EPA 1997	- Data from toxicity and carcinogenicity studies needed for developing new drinking water regulations for water disinfection by-products. - The EPA requested that the DBPs be evaluated in chronic mouse transgenic studies as well as the standard 2-year cancer bioassay.	Sodium bromate (CAS # 7789-38-0): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstats/M940103.Html Water Disinfection Model – Sodium bromate (CAS # 7789-38-0): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatw/M970060.Html
Sodium chlorate 7775-09-9	U.S. EPA 1995	See Water Disinfection By-Products	Sodium chlorate (CAS # 7775-09-9): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstats/M970002.Html Water Disinfection ByProducts - Sodium chlorate (CAS # 7775-09-9): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatw/M960092.Html
Sodium metasilicate 6834-92-0	NIOSH 1998	- Potential for widespread occupational exposure - Biologically active - Existing data gaps	Nominated for toxicity testing; under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstats/M980082.Html
Sodium molybdate 12680-49-8	NCI 1999	See Ammonium molybdate	See Ammonium molybdate
Sodium thioglycolate 367-51-1	NCI 1996	- Widespread worker and consumer exposure. - Since it is used in cosmetic products, permanent wave and hair straightening products, exposure is mainly to the female population.	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstats/10613-K.Html
Sodium Tungstate Dihydrate 10213-10-2	CDC 2002	- Nevada community exposed to high levels of tungsten - Lack of carcinogenicity testing data	Selected for carcinogenicity testing in place of tungsten (7440-33-7) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstats/M030038.Html
alpha-Solanine 20562-02-1	Private Individuals 1996	See Naturally Occurring Chemicals in the Diet	See Naturally Occurring Chemicals in the Diet http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstats/M960041.Html
Spirits (Alcoholic Beverages)	Private Individual 1992	- Lack of studies on alcoholic beverages - Widespread consumer exposure	No testing

TABLE 1 (Continued)

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Stoddard Solvent 8052-41-3	UAW 1994	See Organic Solvents	See Organic Solvents http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstats/M950018.Html
Stoddard Solvent (Type IIC)	UAW 1994	See Organic Solvents	See Organic Solvents http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstats/M960014.Html
Strontium 7440-24-6	Private Individual 2000	- Request for data used in establishing safe exposure levels	Nominated for toxicity testing; under review
Styrene 100-42-5	Private Individual 1991	None given by nominator	No further testing at this time; industry is performing chronic studies http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstats/10166-K.Html
Styrene oxide 96-09-3	State of California EPA 1995	- Lack of acute exposure data.	No further testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstats/10464-T.Html
Sulfuric Acid Mist	UAW 1994 1999	- Concern about health effects of chemicals and combinations of chemicals (including particulates) found in the industrial environment in substantial levels.	No testing
Symphytine 22571-95-5	NIEHS 1998	- Potential for chronic human exposure - Limited carcinogenicity data	Selected for carcinogenicity -Not under consideration at this time
Synthetic Fragrances	Private Individual 1996	- Increasing complaints that synthetic fragrances are having an adverse effect on health - Many people have developed sensitivities to chemicals used in fragrances.	Nominated for toxicity testing; under review 1,8-Cineol (470-82-6): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/10015-L.Html
Synthetic Mineral Fibers	UAW 1994 1998 2000	- Concern about health effects of chemicals and combinations of chemicals (including particulates) found in the industrial environment in substantial levels.	Carbon/graphite fiber composites -Nominated for carcinogenicity testing; under review
Synthetic Polymer Process Emissions	UAW 1994 1999	- Concern about health effects of chemicals and combinations of chemicals (including particulates) found in the industrial environment in substantial levels.	Nominated for toxicity testing. Methyl ethyl ketone peroxide (1338-23-4): No additional testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatm/10001-N.Html Formaldehyde (50-00-0): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatf/10002-S.Html 1,6-Hexanediamine dihydrochloride (6055-52-3): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/10293-D.Html Triethylamine (121-44-8): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/11038-A.Html Phenol-formaldehyde resin dust (9003-35-4) In review di-2-Ethylhexanol (68915-36-6) In review Thermoplastic pyrolysis products (thermoplastic) In review Epoxy-polyurethane catalysts In review Paint dust: No testing.
Synthetic Polymer Process Emissions (continued)			Polyester-polystyrene dust [in combination with fibrous glass]: In review Paint mist solids: No testing Dimethylethylamine (598-56-1) In review
Talc 14807-96-6	UAW 1994 Private Individual 1998	See Mineral Particulate	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/10167-P.Html See Mineral Particulate

TABLE 1 (Continued)

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Tamoxifen	Private Individual 1992	- May induce or promote the development of aggressive hormone independent tumor - Teratogen on the developing human genital tract.	Tamoxifen citrate (54965-24-1): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M960002.Html
TCDD 1746-01-6	NIEHS/ U.S. EPA 1995	See Dioxin Toxic Equivalence Factor Studies	See Dioxin Toxic Equivalence Factor Studies
Tetrabromobisphenol A 79-94-7	Private Individual 1998	- High production volume - Widespread human exposure - Suspicion of causing thyroid tumors	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M200033.Html
Tetrabromobisphenol A bis (2,3-dibromopropyl ether) 21850-44-2	NIEHS 2002	- High production volume - Lack of toxicity data	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M020047.Html
2,2'4,4'-Tetrabromodiphenyl ether 5436-43-1	Private Individual 1998	See Polybrominated Diphenyl Ethers	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M980090.Html See Polybrominated Diphenyl Ethers
1,1,1,2-Tetrabromoethane 630-16-0	NIEHS 1991	See Halogenated Ethanes Class Study	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M910064.Html See Halogenated Ethanes Class Study
1,1,2,2-Tetrabromoethane 79-27-6	NIEHS 1991	See Halogenated Ethanes Class Study	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M882476.Html See Halogenated Ethanes Class Study
Tetrabromophthalic anhydride 632-79-1	NIEHS 1995	See Brominated chemicals	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/11301-P.Html See Brominated chemicals
3,3´,4,4´-Tetrachloroazobenzene (TCAB) (14047-09-7) and 3,3´,4,4´-Tetrachloroazoxybenzene (TCAOB) (21232-47-3) In Drinking Water	U.S. EPA 1988 1991	- Potential for worker and consumer exposure - Contaminants of several herbicides derived from dichlorophenol - Potential for persistence and accumulation on food crops - Potential for contamination of drinking water	TCAB (CAS # 14047-09-7): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M882486.Html TCAOB (CAS # 21232-47-3): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M882482.Html
2,3,7,8-Tetrachlorodibenzo-*p*-Dioxin 1746-01-6	Private Individual 1991	- Evidence that ovarian hormones, probably estrogens, are required for hepatocarcinogenic actions of TCDD - Excellent candidate to study the relationship between cell proliferation and cancer	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/10157-G.Html See Dioxin Toxic Equivalence Factor studies.
1,1,1,2-Tetrachloroethane 630-20-6	NIEHS 1991	See Halogenated Ethanes Class Study	1,1,1,2-Tetrachloroethane (CAS # 630-20-6) http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/10651-J.Html Halogenated Ethanes CS – 1,1,1,2-Tetrachloroethane (CAS # 630-20-6): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/M960085.Html
1,1,2,2-Tetrachloroethane 79-34-5	NIEHS 1991	See Halogenated Ethanes Class Study	1,1,2,2-Tetrachloroethane (CAS # 79-34-5): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/10915-J.Html Halogenated Ethanes CS – 1,1,2,2-Tetrachloroethane (CAS # 79-34-5): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/M960086.Html
2,3,5,6-Tetrachloropyridine 2402-79-1	NIEHS 1997	- High production volume - Inadequate or no toxicity studies	Nominated for carcinogenicity; under review
Tetralin/Decalin	NCI 1993	- High potential for consumer exposure through their use as solvents in paints, waxes, and polishes - Potential for contamination of drinking water supplies	Decalin (91-17-8): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatd/91178.Html Tetralin (119-64-2): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M930058.Html
Theobromine 83-67-0	Private Individuals 1996	See Naturally Occurring Chemicals in the Diet	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/83670.Html See Naturally Occurring Chemicals in the Diet
Thermoplastic Pyrolysis Products	UAW 1994 Private Individual 1998	See Synthetic Polymer Process Emissions	See Synthetic Polymer Process Emissions
Thimerosal 54-64-8	FDA 2001	- Neurodevelopmental, immunologic, and reproductive toxicity data are lacking.	Selected http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M200004.Html
Tobacco-Specific N-Nitrosamines	American Health Foundation 1994	- The first TSNA to be studied should be NNK, which induces lung tumors independent of route or site of application. - Suspected of inducing lung tumors not only seen in active smokers, but also in passive smokers	4-(*N*-Nitroso-*N*-methylamino)-1-(3-pyridyl)-1-butanone (64091-91-4): Nominated for carcinogenicity testing; under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatn/M910041.Html

TABLE 1 (Continued)

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Topoisomerase II Inhibitors	Private Individual 1995	- Potent carcinogens causing cancers with characteristic cytogenetic modifications and short latent periods - Extensive study needed	Nominated for carcinogenicity testing; under review
Toxaphene 8001-35-2	ATSDR 2002	- Inadequate information on health effects of a hazardous substance found at a National Priorities List waste site.	Nominated for toxicity testing; under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/10926-W.Html
Toxaphene Isomers	Private Individual 2000	- Although now banned in the U.S., they were once used as pesticides and have a high potential for bioaccumulation across the food chain.	No further consideration at this time
Tremolite (Non-Asbestiform)	CPSC 1988	- Used in play sand - Potential for human exposure, especially children - Congressional and public interest in the safety of play sand - Lack of adequate chronic toxicity data	No testing
Triamcinolones Class Study	NCI	- Extensive use in pharmaceuticals over an extended period of time - Significant human exposure - Lack of adequate carcinogenicity data	Nominated for carcinogenicity; under review Triamcinolone acetonide (76-25-5) Triamcinolone (124-94-7) Triamcinolone diacetate (67-78-7) Triamcinolone hexacetonide (5611-51-8)
1,3,5-Triazine-1,3,5(2h,4h,6h)-Triethanol 4719-04-4	NCI 1999	- An industrial biocide with very high production volume and worker exposure potential - Inadequate testing - Possibility of the release of formaldehyde from TZT-like biocides	Nominated for carcinogenicity testing -Deferred pending receipt of additional information http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/10292-Y.Html
Tribromophenol 118-79-6	NIEHS 1995	See Brominated chemicals	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M20104.Html See Brominated chemicals
Tribromosalan 87-10-5	NIEHS 1995	See Brominated chemicals	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M950116.Html See Brominated chemicals
Tributyltin Chloride 1461-22-9	NIEHS 1999	- Identified as a representative organotin for testing consideration	Not being considered at this time
Trichlorfon 52-68-6	NIEHS 1994	See Pesticides and Kids	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/10360-X.Html See Pesticides and Kids
1,1,1-Trichloro-2,2,2-trifluoroethane 354-58-5	NIEHS 1991	See Halogenated Ethanes Class Study	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/M960089.Html See Halogenated Ethanes Class Study
Trichloroacetic acid 76-03-9	U.S. EPA 1988 1995	- Water disinfection by-product - High human exposure - Suspicion of carcinogenicity	No additional testing at this time http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M882485.Html
1,1,1-Trichloroethane 71-55-6	NIEHS 1991 UAW 1994 Private Individual 1998	See Halogenated Ethanes Class Study See Organic Solvents	1,1,1-Trichloroethane (CAS # 71-55-6): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/10390-W.Html Halogenated Ethanes CS – 1,1,1-Trichloroethane (CAS # 71-55-6): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstath/M960084.Html See Organic Solvents
Trichloroethylene 79-01-6	UAW 1994 Private Individual 1998	See Organic Solvents	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/10175-P.Html See Organic Solvents
2,4,5-Trichlorophenoxyacetic acid 93-76-5	Private Individual 1992	- Widespread human exposure based on past use as herbicide - Evidence of association between exposure and non-Hodgkin's lymphoma	Nominated for carcinogenicity testing; under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/10447-P.Html
Triclosan 3380-34-5	Private Individual 2003	- Widespread exposure - Insufficient testing data	Nominated for toxicological characterization; under review
Triethanolamine 102-71-6	UAW 1994 Private Individual 1998	See Machining Fluid Constituents	See Machining Fluid Constituents

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Triethylamine 121-44-8	UAW 1994 Private Individual 1998	See Synthetic Polymer Process Emissions	See Synthetic Polymer Process Emissions
1,3,5-Triglycidyl isocyanurate 2451-62-9	NCI 1993	- Nomination based on current level of use, predicted growth, and indications of potential exposures - Toxicity data available for related compounds show that it may be carcinogenic	Nominated for carcinogenicity testing -Deferred pending receipt of additional information http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/2451629.Html
Trigonelline 535-83-1	Private Individuals 1996	See Naturally Occurring Chemicals in the Diet	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M960038.Html See Naturally Occurring Chemicals in the Diet
Trimethoprim/Sulfameth-oxazole (Commercial) 8064-90-2	NCI 1992	- Significant human exposure	Selected for carcinogenicity/toxicity study -Deferred pending results of industry testing http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M920022.Html
S-Trioxane 110-88-3	NIEHS 1999	- High production volume and potentially high human exposure..	Nominated for carcinogenicity testing -Deferred pending receipt of additional information http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatt/M200094.Html
Tungsten	CDC 2002	- Nevada community exposed to high levels of tungsten - Lack of carcinogenicity testing data	See Sodium Tungstate Dihydrate (10213-10-2): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstats/M030038.Html Sodium Tungstate Dihydrate was selected for carcinogenicity testing in place of tungsten (7440-33-7)
Tungsten Trioxides & Suboxides 1314-35-8	NCI 2003	- Lack of carcinogenicity data - Compounds may be fibrogenic in certain industrial settings	Nominated for carcinogenicity testing; under review
Turpentine 8006-64-2	UAW 2000	-Concern about health effects of chemicals and combinations of chemicals (including particulates) found in the industrial environment in substantial levels.	Turpentine (8006-64-2) Selected alpha-Pinene (80-56-8) Selected for testing in place of turpentine. http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/M030014.Html
Undecane 1120-21-4	NCI 2003	- Widespread exposure - Lack of carcinogenicity data	Nominated for carcinogenicity testing; under review
Vincamine 1617-90-9	NCI 2003	- Lack of toxicity data related to the long-term use of this dietary supplement	Nominated for toxicity testing; under review
Vinclozolin 50471-44-8	NIEHS 1996	See Endocrine Disrupter Project	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstate/M960020.Html See Endocrine Disrupter Project
5-Vinylnorbornene 3048-64-4	NIEHS 1997	- Lack of data on chemical disposition, metabolism, toxicokinetics, reproduction, development, carcinogenicity, and immunotoxicity	No further consideration
Vitamin & Mineral Deficiencies	Private Individuals 2003	- Insufficient amounts of some vitamins and minerals in the diet can cause DNA damage.	Nominated for carcinogenicity testing; under review L-Ascorbic Acid (50-81-7): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstata/10357-S.Html Iron (7439-89-6) Zinc (7440-66-6) Folic Acid (59-30-3): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatf/11336-H.Html Vitamin B6 (8059-24-3) Vitamin B12 (68-19-9) Nicotinic Acid (59-67-6)

TABLE 1 (Continued)

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Water Disinfection By-Products	AWWARF 1991 U.S. EPA 1995	- Widespread exposure to water disinfection by-products - Limited toxicity data available for risk assessment	Chloral (75-87-6): No further testing recommended http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/10404-W.Html Bromochloroacetonitrile (83463-62-1): No testing Bromoacetic acid (79-08-3): In review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatb/M920034.Html 3-Chloro-4-(dichloromethyl)-5-hydroxy-2(5H)-furanone (MX) (77439-76-0): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M920035.Html Water Disinfection Byproducts (Dibromoacetic Acid 631-64-1): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatw/M960093.Html Water Disinfection Byproduct (Bromodichloromethane 75-27-4): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatw/M970019.Html Water Disinfection Model (Bromodichloromethane 75-27-4): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatw/M970062.Html Glyoxal (107-22-2): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatg/M88068.Html Water Disinfection Byproduct (Dichloroacetic acid 79-43-6): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatw/M980042.Html Water Disinfection Model (Dichloroacetic acid 79-43-6): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatw/M970061.Html Trichloroacetic acid (76-03-9): Deferred to ascertain whether EPA requires additional toxicity studies. Water Disinfection By-Product (Bromodichloroacetic acid 71133-14-7): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatw/M920032.Html
Water Disinfection By-Products (continued)			Water Disinfection By-Product (Bromoacetic acid (79-08-3): In review Methyl glyoxal (78-98-8): In review Chlorate (Chlorate Ion) (14866-68-3): No testing Cyanogen chloride (506-77-4): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatc/M950072.Html Water Disinfection By-products (Bromochloroacetic acid 5589-96-8): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatw/M980085.Html Water Disinfection By-Products (Sodium chlorate 7775-09-9): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatw/M960092.Html
Waxes used on fruits and vegetables	Private Individual 1994	-Widespread exposure -Lack of toxicity data	No testing
Welding Fumes	NIOSH 2002 UAW 1994 Private Individual 1998	- Widespread occupational exposure - Lack of toxicology data from animal and human studies	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatw/M020021.Html
Wireless Communication Devices	FDA 1999	- Use of wireless communication devices like cellular phones is increasing rapidly. - Little is known about the possible health effects of repeated or long-term exposure to low levels of radio frequency radiation (RFR) of the types emitted by such devices. - The data from animal exposure studies are conflicting and most of the research was not conducted with actual cellular phone radiation.	http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatw/M990079.Html

Chemical Name/CAS Number	Nomination Source/Year	Rationale for Request	Current NTP Status[1]
Wood Dust	UAW 1994 Private Individual 1998	See Organic Particulate	See Organic Particulate
Xylenes	State of California EPA (OEHHA) 1995	-Lack of data for use in human and environmental risk assessments.	No additional testing *o*-Xylene (95-47-6): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatx/10454-K.Html *p*-Xylene (106-42-3): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatx/10508-S.Html *m*-Xylene (108-38-3): http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatx/10520-C.Html Xylenes (Mixed) (1330-20-7): Nominated for toxicity testing; under review http://ntp-server.niehs.nih.gov/htdocs/Results_Status/Resstatx/10004-A.Html
	ATSDR 2002	- Inadequate information on health effects of a hazardous substance found at a National Priorities List waste site.	

[1]This table contains updated information through September 2003. Where NTP testing has been conducted a link is provided to the results and status information. For additional information about NTP studies listed in this table contact Central Data Management, Mail Drop EC-03, NIEHS, P.O. Box 12233, Research Triangle Park, NC 27709 (Phone: 919-541-3419; Fax: 919-541-3687; e-mail: CDM@niehs.nih.gov). Abstracts for all published NTP long-term carcinogenicity technical reports and short-term toxicity study reports are available electronically over the Internet. To view all abstracts and additional NTP information, use the URL http://ntp-server.niehs.nih.gov/.