

Adi-pure® High Purity Adipic Acid: Information Sheet

Adi-pure® High Purity Adipic Acid Conflict Minerals Statement:

Based on our knowledge we advise you that INVISTA does not intentionally include the chemicals identified in your inquiry (see list below) in the manufacture of Adi-pure® High Purity Adipic Acid.

Gold
Tin
Tungsten
Tantalum
Cassiterite
Wolframite
Columbite-tantalite

Please note, however, that INVISTA does not analyze Adi-pure® High Purity Adipic Acid for the chemicals identified in your inquiry.

Adi-pure® High Purity Adipic Acid Food Contact Statement:

Adi-pure® High Purity Adipic Acid is comprised of adipic acid (CAS# 124-04-9). In the United States, FDA's regulations for food contact applications allow the use of adipic acid as a component of food contact substances, i.e. indirect food additives (subject to the specific requirements and limitations of the corresponding Code of Federal Regulations citation) including:

- Adhesives (21 CFR 175.105),
- Resinous and polymeric coatings (21 CFR 175.300) and resinous and polymeric coatings for polyolefin films (21 CFR 175.320),
- Components of paper and paperboard in contact with aqueous and fatty foods (21 CFR 176.170) and with dry food (21 CFR 176.180),
- Cellophane (21 CFR 177.1200),
- Closures with sealing gaskets for food containers (21 CFR 177.1210),
- Resins including nylon (21 CFR 177.1500), polyurethane (21 CFR 177.1680), and cross-linked polyester resins (21 CFR 177.2420),
- Rubber articles intended for repeated use (21 CFR 177.2600).

Please note that INVISTA makes no representations regarding the FDA regulatory status of polymers produced from Adi-pure® High Purity Adipic Acid; it is the customer's responsibility to ensure that the Adi-pure® High Purity Adipic Acid based polymer is FDA compliant. The regulatory listings included above are merely intended to illustrate the ways in which Adi-pure® High Purity Adipic Acid potentially can be used to produce FDA-compliant polymers.

Be advised that adipic acid (CAS# 124-04-9) is listed under nr 12130 in EU Regulation EC/10/2011 and amendments, with no restrictions.

Adi-pure® High Purity Adipic Acid Inventory Status:

Adi-pure® High Purity Adipic Acid is present on the following inventories:

Australia (AICS)
Canada (DSL)
China (IECSC)
European Union (EINECS)
Japan (ENCS)
Japan (ISHL)
Korea (KECI)
New Zealand
Philippines (PICCS)
United States (TSCA)
Taiwan (TCSI)

Adi-pure® High Purity Adipic Acid ISO Certificate:

Adi-pure® High Purity Adipic Acid ISO Certificate is available upon request.

Adi-pure® High Purity Adipic Acid Restricted Substances:

Based on our knowledge we advise you that INVISTA's Adi-pure® High Purity Adipic Acid does not intentionally contain any of the substances identified in the list below. Please note that copper is used in the production of Adi-pure® High Purity Adipic Acid.

Please note, however, that INVISTA does not analyze Adi-pure® High Purity Adipic Acid for the chemicals identified below on a routine basis.

Aluminum (Al) and its compounds
Antimony (Sb) and its compounds
Arsenic (As) and its compounds
Barium (Ba) and its compounds
Beryllium (Be) and its compounds
Boron (B) and its compounds
Cadmium (Cd) and its compounds
Cobalt (Co) and its compounds
Copper (Cu) and its compounds
Chromium (Cr) and its compounds
Lead (Pb) and its compounds
Manganese (Mn) and its compounds
Mercury (Hg) and its compounds
Nickel (Ni) and its compounds
Selenium (Se) and its compounds
Silver (Ag) and its compounds
Strontium (Sr) and its compounds
Thallium (Tl) and its compounds
Tin (Sn) and its compounds
Zinc (Zn) and its compounds
Polyaromatic hydrocarbons:
Naphthalene
Acenaphthylene
Acenaphthene

Fluorene
Phenanthrene
Anthracene
Fluoranthene
Pyrene
Benzo(a)anthracene
Chrysene
Benzo(b)fluoranthene
Benzo(k)fluoranthene
Benzo(a)pyrene
Indeno(1,2,3-cd)pyrene
Dibenzo(a,h)anthracene
Benzo(g,hi)perylene

Polychlorinated biphenyls (PCB):

1,1'-Biphenyl, 2,4',5'-trichloro- (CAS nr 16606-02-3)
1,1'-Biphenyl, 2,3,3',4'-tetrabromo- (CAS nr 40088-45-7)
1,1'-Biphenyl, 2,2',4,4',5,5'-hexabromo- (CAS nr 59080-40-9)
2,2',4,4'-Tetrachlorobiphenyl (CAS nr 2437-79-8)
2,3',4,4',5,5'-HEXACHLOROBIPHENYL (CAS nr 52663-72-6)
2,4,5,2',4',5'-Hexachlorobiphenyl (CAS nr 35065-27-1)
3,3',4,4'-TETRACHLOROBIPHENYL (CAS nr 32598-13-3)
3,4,5,3',4',5'-Hexachlorobiphenyl (CAS nr 32774-16-6)
Aroclor 1016 (CAS nr 12674-11-2)
Aroclor 1221 (CAS nr 11104-28-2)
Aroclor 1232 (CAS nr 11141-16-5)
Aroclor 1242 (CAS nr 53469-21-9)
Aroclor 1248 (CAS nr 12672-29-6)
AROCLOR 1254 (CAS nr 11097-69-1)
Aroclor 1260 (CAS nr 11096-82-5)
Heptachloro-1,1'-biphenyl (CAS nr 28655-71-2)
Nonachloro-1,1'-biphenyl (CAS nr 53742-07-7)
pentachloro[1,1'-biphenyl] (CAS nr 25429-29-2)
Polychlorinated biphenyls (CAS nr 1336-36-3)
Tetrachloro(tetrachlorophenyl)benzene (CAS nr 31472-83-0)
Polychlorinated naphthalenes (PCN):
Naphthalene, chloro derivatives (CAS nr 70776-03-3)
Naphthalene, trichloro- (CAS nr 1321-65-9)
Pentachloronaphthalene (CAS nr 1321-64-8)
Polychlorinated naphthalene (CAS nr 38289-27-9)
Polychlorinated terphenyls (PCT):
Terphenyl, chlorinated (CAS nr 61788-33-8)

Short-chain chlorinated paraffins of 10 to 13 carbon atoms (SCCP) etc.

Other organochlorine compounds

Polybrominated biphenyls (PBB) etc.

Decabromodiphenyl ether (DecaBDE) including polybrominated diphenyl ethers (PBDE) etc.

Other organic bromine compounds

Bis (tributyltin) oxide (TBTO)

Trisubstituted organotin compounds: excluding TBTO

Dibutyltin (DBT) compounds

Diocetyl tin (DOT) compounds

Asbestos compounds (Actinolite,Amosite,Anthrophyllite,Chrysolite, Crocidolite,Termolite)

Carcinogenic amines formed from azo-dyes:

2,4,5-Trimethylaniline (CAS nr 137-17-7)
2-Naphthylamine (CAS nr 91-59-8)
3,3'-Dichlorbenzidine (CAS nr 91-94-1)
3,3'-Dimethoxybenzidine (CAS nr 119-90-4)
3,3'-Dimethylbenzidine (CAS nr 119-93-7)
4,4'-Methylene-bis-(2-chloroaniline) (CAS nr 101-14-4)
4,4'-Methylenedianiline (CAS nr 101-77-9)
4,4'-Methylenedi-o-toluidine (CAS nr 838-88-0)
4,4'-Oxydianiline (CAS nr 101-80-4)
4,4'-Thiodianiline (CAS nr 139-65-1)
4-Aminodiphenyl (CAS nr 92-67-1)
4-Chloraniline (CAS nr 106-47-8)
4-Chloro-o-toluidine (CAS nr 95-69-2)
4-Methoxy-m-phenylenediamine (CAS nr 615-05-4)
4-Methyl-m-phenylenediamine (CAS nr 95-80-7)
5-Nitro-o-toluidine (CAS nr 99-55-8)
Benzidine (CAS nr 92-87-5)
o-Aminoazotoluene (CAS nr 97-56-3)
o-Anisidine (CAS nr 90-04-0)
o-Toluidine (CAS nr 95-53-4)
p-Cresidine (CAS nr 120-71-8)
4-Aminoazobenzol (CAS nr 60-09-3)

Phthalates:

"Benzyl butyl phthalate (BBP)
(1,2-Benzenedicarboxylic acid, 1-butyl 2-(phenylmethyl) ester) (CAS nr 85-68-7)"
"Bis(2-methoxyethyl) phthalate
(1,2-Benzenedicarboxylic acid, 1,2-bis(2-methoxyethyl) ester) (CAS nr 117-82-8)"
"Di(2-ethylhexyl)phthalate (DEHP)
(1,2-Benzenedicarboxylic acid, 1,2-bis(2-ethylhexyl) ester) (CAS nr 117-81-7)"
"Dibutylphthalate (DBP)
(1,2-Benzenedicarboxylic acid, 1,2-dibutyl ester) (CAS nr 84-74-2)"
"Diisobutylphthalate (DiBP)
(1,2-Benzenedicarboxylic acid, 1,2-bis(2-methylpropyl) ester) (CAS nr 84-69-5)"
"Diisopentylphthalate (DIPP)
(1,2- Benzenedicarboxylic acid, 1,2-bis(3-methylbutyl) ester) (CAS nr 605-50-5)"
"Heptyl undecyl phthalate
(1,2-Benzenedicarboxylic acid di-C7-11-branched and linear alkyl-esters) (CAS nr 68515-42-4)"
(1,2-Benzenedicarboxylic acid, diundecyl ester) (CAS nr 3648-20-2)
1,2-Benzenedicarboxylic acid; di-C6-8-branched alkylesters, C7-rich (CAS nr 71888-89-6)
(1,2-Benzenedicarboxylic acid, diheptyl ester, branched and linear) (CAS nr 68515-44-6)
(1,2-Benzenedicarboxylic acid, dinonyl ester, branched and linear) (CAS nr 68515-45-7)
(1,2-Benzenedicarboxylic acid, heptyl nonyl ester, branched and linear) (CAS nr 111381-89-6)
(1,2-Benzenedicarboxylic acid, heptyl undecyl ester, branched and linear) (CAS nr 111381-90-9)
(1,2-Benzenedicarboxylic acid, nonyl undecyl ester, branched and linear) (CAS nr 111381-91-0)
"Dipentylphthalate
(1,2-Benzenedicarboxylic acid, 1,2-dipentyl ester) (CAS nr 131-18-0)"
Di-isononyl phthalate (CAS nr 8553-12-0)
Di-isodecyl phthalate (CAS nr 26761-40-0)
Di-n-octylphthalate (CAS nr 117-84-0)

Di-isononylphthalate (CAS nr 68515-48-0)
Diethyl phthalate
BADGE (2,2-bis(4-hydroxyphenyl)propane bis(2,3-epoxypropyl) ether, CAS 1675-54-3)
BFDGE (bis(hydroxyphenyl)methane bis(2,3-epoxypropyl)ethers, CAS 039817-09-9)
NOGE (novolac glycidyl ethers)

Triphenylphosphate (CAS 115-86-6)
Formaldehyde
Oxalic acid
Polyvinyl chloride (PVC) and PVC mixture
Fluorinated greenhouse gases (PFC, HFC, SF6) etc.
Ozone Depleting Substances: A Montreal Protocol Annex, B, C, substances according to E
Perfluorooctane sulfonate (PFOS) and its salts, and perfluorooctane sulfonate fluoride (PFOSF)
Perfluorooctanoic acid (PFOA)
Specific benzotriazole (target: CASNo.3846-71-7)
Cobalt chloride
Dimethyl fumarate (DMF)
Radioactive material
Perchlorate
Phosphoric acid tris (2 - chloroethyl)
Methyl bromide
Brominated flame retardants (s PBB, etc. PBDE, except HBCDD) and
Diarsenic pentoxide
Arsenic trioxide
Triethyl arsenate
Hexabromocyclododecane (HBCDD) and all major diastereoisomers
Diisobutyl phthalate (DIBP)
Aluminosilicates, refractory ceramic fibers
Aluminum zirconium silicate, refractory ceramic fibers
Boric acid
Disodium tetraborate anhydrous
Sodium boron oxide hydrate four seven (hydrated sodium tetraborate).
[4 - {bis (4 - dimethylaminophenyl) methylene} -2,5 - cyclohexadien-1 - ylidene] dimethylammonium
chloride (CI BASIC VIOLET 3 aliases)
Pesticides
Disperse dyes and dyestuff
Methylphenol
Alkyphenols (AP=NP,OP)
Alkylphenoethoxylate(APEO=NPEO)
Short chained chloroparaffines C-10-C13
Medium chained chloroparaffines C14-C17
Carcinogenic dyes
Benzene
Phenol
Tetrachloroethane
Toluene
Xylene
Trichloroethylene
5-tert-butyl-2,4,6-trinitro-m-xylene
2,4-Dinitro toluene
Ozone depleting substances
Blue Colourants
Dioxins& furans

Sperm whale oil
Dichloro Diphenyl Trichloroethane(DDT)
Glyoxal
Titanium Dioxide
Halogenated solvents
Halogenated Dioxins or Dibenzofurans
Aromatic solvents
Epichlorohydrin
Benzidine
N-methyl pyrrolinone (NMP)
Perchlorate
1,3-Butadiene
Vinyl acetate
Ethyl acrylate
Styrene
Hexachloroethane
1,4-Dioxane
Acrylamide
Dichlorvos
Toluene-2,4-diisocyanate
4,4 Methylene dianiline
4,4-Methylenebis(2-chloroaniline)
Di-n-butyl phthalate
Benzophenone
4,4-Bisphenol A
Isocyanates
Natural rubber latex (NRL)
Butylated Hydroxy Toluene (BHT)

Polybrominated Flame Retardants
Arylamines
Organochlorinated Compounds
Polycyclic Aromatic Hydrocarbons
Octamethylcyclotetrasiloxane
Grain-based alcohol

Dyes/colorants listed in ZDHC (Zero Discharge of Hazardous Chemicals Programme)

(http://ir.lining.com/eng/csr/csr_reports/mrsl20140605.pdf)

Inditex Standards

(http://www.inditex.com/sustainability/product/health_quality_standards)

Oeko-tex

(https://www.oeko-tex.com/en/manufacturers/test_criteria/limit_values/limit_values.html)

GOTS Approved (Global Organic Textile Standard)

(<http://www.global-standard.org/certification.html>)

Adi-pure® High Purity Adipic Acid RoHS Statement:

This note concerns compliance with European Directive 2015/863/EU as amended (RoHS Directive). This directive places restrictions on the maximum concentration of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB), polybrominated diphenylethers (PBDE), Bis(2-Ethylhexyl) phthalate (DEHP), Benzyl butyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP) in electrical and electronic equipment. Link:

http://ec.europa.eu/environment/waste/rohs_eee/legis_en.htm

Cadmium (Cd)
Mercury
Lead (Pb)
Hexavalent chromium (Cr6+)
Polybrominated biphenyls (PBB)
Polybrominated diphenyl ethers (PBDE)
Bis(2-Ethylhexyl) phthalate (DEHP)
Benzyl butyl phthalate (BBP)
Dibutyl phthalate (DBP)
Diisobutyl phthalate (DIBP)

We advise you that INVISTA does not include as an intentional additive or ingredient in *Adi-pure*[®] High Purity Adipic Acid the chemicals identified above the levels indicated in the RoHS Directive.

Adi-pure[®] High Purity Adipic Acid Shelf-life Statement:

An approximate shelf-life of *Adi-pure*[®] High Purity Adipic Acid is two years, if the product is stored in the original container, in a cool and dry location and tightly closed. Based on best practice, it is recommended to rotate out the inventory on a first-in, first-out basis to minimize caking. Because storage and local conditions vary and INVISTA has no control over the practices, procedures and conditions at a customer's facility, the shelf-life estimate provided should be used as guidance only. It is not provided as a guarantee of any shelf life.

Adi-pure[®] High Purity Adipic Acid Source Statement:

Be advised that INVISTA's *Adi-pure*[®] High Purity Adipic Acid manufactured at our Victoria, Texas facility is manufactured from petrochemical-based feed stocks. No raw materials, reagents or support materials (buffers, catalysts, filter media) used in the manufacture of *Adi-pure*[®] High Purity Technical Grade Adipic Acid are of animal or human origin.

Adi-pure[®] High Purity Adipic Acid SVHC Statement:

Based on our knowledge, we advise you, that *Adi-pure*[®] High Purity Adipic Acid is not listed as a SVHC substance on the EU Candidate List of Substances of Very High Concern (as updated on 27 June 2018 <http://echa.europa.eu/candidate-list-table>). INVISTA does not include as an intentional additive or ingredient any SVHC substances in the manufacture of *Adi-pure*[®] High Purity Adipic Acid.

Please note however, that INVISTA does not analyze *Adi-pure*[®] High Purity Adipic Acid for SVHC substances on a routine basis.

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