Tetrahydrofuran (THF): Information Sheet

**Tetrahydrofuran Conflict Minerals Statement:**
Based on our knowledge, we advise you that INVISTA does not include as an intentional additive or ingredient the chemical/element identified in your inquiry (see below list) in the manufacture of Tetrahydrofuran.

- Gold
- Tantalum
- Tin
- Tungsten

Please note, however, that INVISTA does not analyze Tetrahydrofuran for the chemicals identified in your inquiry.

**Tetrahydrofuran Global Inventory Status:**
Be advised that Tetrahydrofuran is listed on the following inventories:

- Australia (AICS)
- Canada (DSL)
- China (IECSC)
- Japan (ENCS)
- Japan (ISHL)
- Korea (KECL)
- New Zealand (NZIoC)
- Philippines (PICCS)
- United States (TSCA)
- Taiwan (NECSI)

**Tetrahydrofuran Solution ISO Certificate:**
Tetrahydrofuran ISO Certificate is available upon request.

**Tetrahydrofuran Restricted Substances:**
Based on our knowledge, we advise you that INVISTA does not intentionally include the chemicals/elements identified in your inquiry (see below list) in the manufacture of Tetrahydrofuran, except for Ni and Cu. Tetrahydrofuran may contain < 1 ppm of Cu and Ni. Please note, however, that INVISTA does not analyze Tetrahydrofuran for the chemicals identified in your inquiry.

- Residual metals (Ag, As, Ba, Cd, Co, Cr, Cu, Fe, Hg, Ir, Li, Mn, Mo, Ni, Os, Pb, Pd, Pt, Rh, Ru, Se, Sb, Sn, Ti, V, Zn).
- Class 1 Solvents as specified in the ICH Q3C guideline: Benzene, Carbon tetrachloride, 1,2-Dichloroethane, 1,1-Dichloroethane and 1,1,1-Trichloroethane.
- Aflatoxin
- Melamine
- 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)
Diisobutyl phthalate (DiBP)
(1,2-Benzenedicarboxylic acid, 1,2-bis(2-methylpropyl) ester) (CAS nr 84-69-5)
Diisopentyl phthalate (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)
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

**Tetrahydrofuran 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.

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 Tetrahydrofuran the chemicals identified above the levels indicated in the RoHS Directive.
**Tetrahydrofuran Shelf-life Statement:**
INVISTA Tetrahydrofuran is stabilized with butylated hydroxytoluene (BHT) to prevent formation and/or accumulation of Tetrahydrofuran-hydroperoxide and should be stored in the original sealed container, in a cool and dry location. Once the THF packaging is opened to the atmosphere, the risk of peroxide formation increases and the user should monitor peroxide levels. THF may react with oxygen to form peroxides which are thermally unstable and shock sensitive. If there is concern about storage conditions or peroxide level after the container is opened, the customer should verify the peroxide level before use by using test strips (available from JT Baker 'Baker Testrips' for Peroxide (#4416-01), from Avantor Performance Materials in Center Valley, PA) or analytical testing (test method available upon request).

**Tetrahydrofuran Source Statement:**
Be advised that INVISTA's Tetrahydrofuran (THF) manufactured in the U.S. is produced from petrochemical-based feedstocks. THF is a synthetic chemical. No raw materials, reagents or support materials (buffers, catalysts, filter media) used in the manufacture of THF are of plant, animal or human origin. To the best of our knowledge, the final product THF does not contain genetically-modified substances.

**Tetrahydrofuran SVHC Statement:**
Based on our knowledge, we advise you, that Tetrahydrofuran is not listed as a SVHC substance on the EU Candidate List of Substances of Very High Concern (as updated on 12 January 2017 [http://echa.europa.eu/candidate-list-table]). INVISTA does not include as an intentional additive or ingredient any SVHC substances in the manufacture of Tetrahydrofuran.

Please note however, that INVISTA does not analyze Tetrahydrofuran for SVHC substances on a routine basis.

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