

Nath Titanates Pvt. Ltd.

Manufacturer : Organic Titanates

About Us

Nath Titanates Pvt. Ltd. established in November 18, 2011. The predecessor of Nath Titanates Plant is the unit of Organic Titanates & its various products as well as scientific research, production & operating under one roof. Nath Titanates Pvt. Ltd. is one of the most manufacturers of Organic Titanates. Factory covers an area of 20,000 square meters & more than 25 technical Staff, including 5 engineers are working in the unit.

Over the years, Nath titanates industry of Organic Chemistry, Indian west zone ,production and marketing of titanium iso propoxide 300 tons/year, is tetra butyl titanate 200 tons / year, titanium coupling agent 200 tons / year, titanate crosslinkers 100 tons / year, and other products, quality in line with international requirements, domestic products Company all over the world, join hands in creating a better future.

Nath Titanates is now headed by **Rajendra E. Tambe**. He has experienced more than two decades of as a technocrat. He has successfully headed and managed various capacities in the pharma processing, as well as the agro chemical manufacturing unit.

Vision

The highly motivated team at **Nath Titanates Pvt Ltd**, will always be eager to partner with their customers to understand their needs and is persistently craving to deliver customized solutions to them.

Manufacturer Exporter and Supplier

- ▶ Quality range of products
- ▶ Modern infrastructure
- ▶ Dedicated team of employees
- ▶ Transparent dealings



4 THET

Tetra - 2-EthylHexyl Titanate.

It is used in the DOP production when other alcohol contamination concern, other applications are similar to TNBT.

5. ET

Tetra ethyl titanate is a titanium alkoxide. ET is used in variety of industrial applications like esterification catalyst in OLIFIN polymerisation. As a compound & component of heat & corrosion resistant paint.

OTHER TITANATES

▶ TNBT(TETRA N-BUTYL TITANATE) ▶ TIPT (TETRA ISOPROPYL TITANATE) ▶ TPT 20B ▶ TPT 15B ▶ BIPT

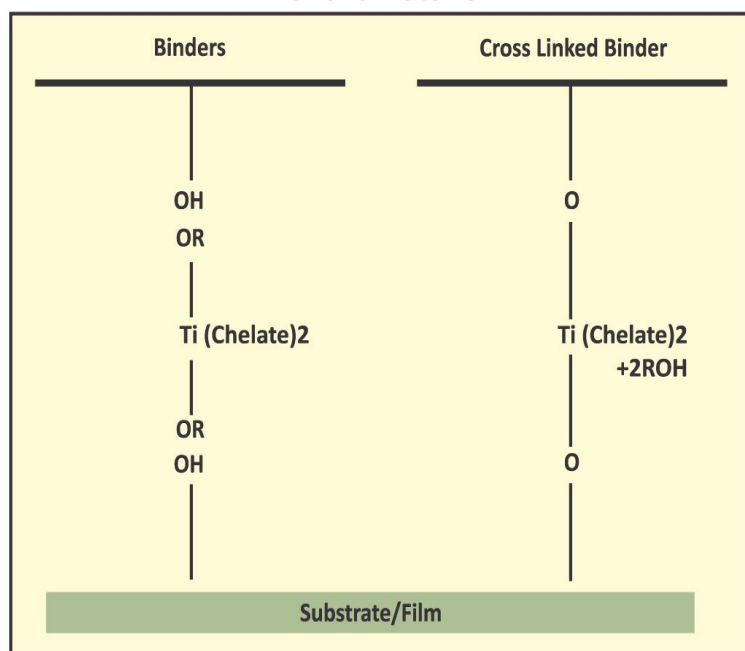
Tetra N Butyl Titanate (BTM) :

Usage - It is widely used as a catalyst for reaction such as Esterification and olefin Polymerization. It is recommended as a cross linking agent for wire enamel, surface coatings and printing inks. It is also used as a surface modifier, adhesion promoter and scratch resistant glass.

Sr no	Parameters	Unit	Test Method	Typical value
1	Appearance		Visual	Clear liquid Pale Yellow
2	Colour	Apha	Pt-Cobalt	Max 150
3	Sp .gravity@25		ASTMD891	0.985-1.005
4	TiO2	%	QS/TM/SO/5	23-23.8
5	Viscosity	Cst	ASTMD-445	55-80
6	Chloride	Ppm	QS/TM/SO/7	Max50
7	Iron	Ppm	QS/TM/SO/6	Max 5



Chart Details



Products & their Key Features

There are three different grades of BONDING-ti adhesion promoters manufactured and supplied by NATH TITANATES. Below are these products and their key features.

Key Features: Ink Products

- BONDING-ti IAC-10 (Titanium Phosphate Complex) Inks Chelate**
 - ▶ Improve heat resistance, Water, Chemical, Grease resistance in flexographic & Gravure inks.
 - ▶ Achieve heat resistance upto 160 c in polyvinyl butyral based (PVB) inks.
 - ▶ Improve adhesion of NC/PU & LC/PA ink to poly olefin films. Adhesion promoter with low odor, reduced yellowing /color.
 - ▶ Helps forming bond between the ink resin and film surface. Provides printed substrates with increased water, grease and heat resistance.
 - ▶ Improved adhesive and extrusion lamination bonds. Ideal choice for ink formulator.

BONDING-ti-IAC-10

No.	Parameters	Unit	Test Method	Specification
1.	Appearance	-	Visual	Colorless to, Pale Yellow Clear Liquid.
2.	Color	APHA	Pt-Co Method QP/NT/10	100 Max
3.	Specific gravity @25°C	-	ASTMD - 891	1.002 – 1.020
4.	K. Viscosity @ 25°C	CST	ASTMD - 445	20 - 25
5.	Ti Content	%	QP/TM/NT/13	8.45 – 8.90

Product being manufactured currently are

- | | |
|--|-------------------|
| 1) Tetra N Butyl Titanate (TNBT) | CAS NO 5593-70-4 |
| 2) Tetra Isopropyl Titanate (TIPT) | CAS NO 546-68-9 |
| 3) Butyl Isopropyl Titanate (BIPT) | CAS NO 68955-22-6 |
| 4) TIPT/TNBT(TPT20B) | CAS NO 68955-22-6 |
| 5) Titanium Acetyl Acetate (TAA) | CAS NO 17927-72-9 |
| 6) IAC -(10) [Titanium Phosphate Complex] inks chelate | |
| 7) TAA | |

Organic Titanates are used various applications like

- 1) Catalyst for esterification, transesterification and polymerization reaction.
- 2) Improve mechanical and film properties of wire enamel.
- 3) Improve adhesion and conductivity properties of electronic and reduces metal oxidation.
- 4) Augmenting adhesives, printing inks and various coatings.
- 5) Reduces fragility of glass and improve scratch resistance.
- 6) It is also used as a surface modifier, adhesion promoter.
- 7) Used in plasticizers industries.

Adhesion Promoters BONDING-ti IAC-10 for printing Inks

NATH TITANATES Adhesion Promoters are the most critical ingredients in liquid packaging flexo and gravure printing inks. These are also called organic Titanates as well.

Organic Titanates have historically been used in printing inks as an additive to enhance the adhesion as well as an overall performance of an ink printed on the substrate for variety of packaging applications but more specifically for flexible packaging market segment.

Any ink formulator can formulate printing ink that can adhere well on any difficult flexible film substrates using variety of performance enhancing resin chemistries such as Polyurethane, Polyamides, Vinyls, Polyvinyl Butyral, Acrylic etc., however when it comes to making an ink formula more versatile or rather a universal for adhering on to augment of substrates, NATH TITANATES BONDING-ti organic Titanates come to rescue and become the only additives of choice for an ink formulator.

They are quite beneficial specifically in the printing inks based on cellulosic resins e.g. Nitrocellulose as pigment grinding resin let down with other supporting resins having OH and COOH functionality on it.

These functional groups are very essential for organic Titanates to do their job efficiently which is to promote an ink adhesion on to printed substrates. They not only improve the adhesion but also improve heat resistance properties of printed ink such as rub, scratch, grease, moisture and in general improve the overall performance of the printed package.

Although, these Titanates do improve above mentioned properties, some flexible films do require surface modification by corona, film or plasma treatment in order to generate reactive functional groups (-OH, -COOH), so these titanate chelates can perform effective bridging between film and resin. Typical such adhesion mechanism is shown as per chart.



Tetra Iso-Propyl Titanate (TIPT) :

Usage - It is use as surface modifier, adhesion promoter, wax and oil additives and in manufacture of scratch resistant glass. It is widely used as a catalyst for reaction such as Esterification, Trans-Esterification and Olifin polymerization. It is used crosslinking agent in wire enamel. Also using in chelates of ink & Plasticizers Ind.

Sr no	Parameters	Unit	Test Method	Typical value
1	Appearance		Visual	Clear liquid
2	Colour	Apha	Pt-Cobalt	Max 50
3	Sp .gravity@25		ASTMD891	0.95-0.98
4	TiO2	%	QS/TM/SO/5	27.5-28.2
5	Viscosity	Cst	ASTMD-445	2-4
6	Chloride	Ppm	QS/TM/SO/7	Max 50
7	Iron	Ppm	QS/TM/SO/6	Max 5
8	Freezing Point	0 c	QS/TM/SO/08	16-19

Butyl Iso-Propyl Titanate (BIPT) :

Usage - BIPT find application in organic synthesis. It is used variety of industrial applications e.g. as an esterification and transesterification catalyst as an olifin polymerization. Catalyst and as a cross linking agent for hydroxylic compounds. Also using in chelates of ink.

Sr no	Parameters	Unit	Test Method	Typical value
1	Appearance		Visual	Clear Pale Yellow liquid
2	Colour	Apha	Pt-Cobalt	Max 100
3	Sp. gravity@25		ASTMD891	0.96-0.99
4	TiO2	%	QS/TM/SO/5	27-28
5	Iron	Ppm	QS/TM/SO/06	Max5
6	Chloride	Ppm	QS/TM/SO/7	Max50



TPT (20B) (TIPT/TNBT) :

Usage -TPT-20B is used polymerization (Ziegles - Natta) (PE, PP, Polybutadines) Stereoselectivity, low pressure, effective process. In esterification of plasticizers, different esters(elimination of by products).

Glass treatment : Hot end treatment of hollow glass, iridescence of glass ware, coatings of flat glass.

Metal filler pigment coating. Also using in chelates of ink.

Sr. No.	Parameters	Unit	Test Method	Typical value
1	Appearance		Visual	Clear to Pale Yellow
2	Colour	Apha	Pt-Cobalt	Max 100
3	Sp .gravity@25		ASTMD891	0.96-0.980
4	TiO2	%	QS/TM/SO/5	27-28
5	Iron	Ppm	QS/TM/SO/06	Max5
6	Chloride	Ppm	QS/TM/SO/7	Max50

Ttanium Acetyl Acetonate (TAA):

Usage - TAA is used as a adhesion promotion and cross-linking in nonaqueous system, catalysis ,surface modification. Crosslinking for paint binders . Crosslinking the ink giving faster drying, solvent resistance, heat resistance. Using as a primer. In metal coatings as a heat and light reflection metal corrosion. Also using in chelates of ink.

Sr no	Parameters	Unit	Test Method	Typical value
1	Appearance		Visual	Clear liquid
2	Colour	Apha	Visual	Yellow Red to Brown
3	Sp .gravity@25		ASTMD891	0.96-1.02
4	TiO2	%	QS/TM/SO/5	15-16.5
5	Flash point	Cst	ASTMD-445	55-80
6	Chloride	Ppm	QS/TM/SO/7	Max50

Nath Titanates Pvt. Ltd.

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