



GG Organics
Sustainable care for Leather



A SAFE CHOICE FOR LEATHER PROCESSING



GG Organics

Sustainable care for Leather

GG Organics India (P) Ltd. is a pioneering leader in the leather industry, providing cutting edge and sustainable chemical solutions for leather processing. Established in 2008, with its manufacturing facility in Pondicherry and headquarters in Chennai, both on India's southern coast. Since its inception, GG Organics has integrated the idea of "Go Green " into its strategic direction, deploying non-hazardous chemicals in leather processing. This sustained environmental commitment has led to the launch of two new brands SUSTAN and BENITAN. SUSTAN focuses on Biopolymers, while BENITAN is developed with novel methodologies to address the latest regulatory changes on the addition of bisphenol S (BPS) in SVHC. The BENITAN products are designed with very low bisphenols and zero formaldehyde chemicals.

GG Organics state-of-the-art laboratory is equipped with advanced LCMS-MS equipment, enabling us to identify the concentration of bisphenol in retanning agents and leather, providing efficient delivery in the most cutting-edge areas of the leather industry. Our products are manufactured with a strictly controlled mechanism, and with our GG products, we can assure the leather industry can develop high-quality leathers with minimal environmental impact.

At GG Organics, we strive to create a healthier world through our mission of delivering superior performance, utilizing advanced technology and developing a safe environment. We believe in creating value for our customers, through a continually evolving product portfolio, designed to meet their changing needs. Our team of highly skilled and dedicated R&D professionals possess the expertise to develop innovative solutions and technologies to stay up-to-date with regulations and processes. At GG Organics, we are passionate about delivering high quality leather chemicals without compromising on our commitment to safeguarding the environment. We ensure that our products meet the highest standards of quality and sustainability.

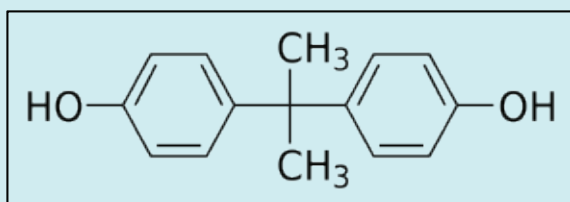
What is Bisphenol?

Bisphenol is a synthetic organic compound containing 2 phenol groups (two hydroxyl phenyl groups) and it is used mainly for making plastics and resins.

Types of Bisphenol

Bisphenol A (BPA)
Bisphenol AF (BPAF)
Bisphenol B (BPB)
Bisphenol F (BPF)
Bisphenol S (BPS)

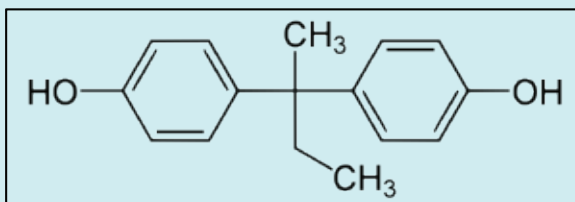
STRUCTURE



Bisphenol A



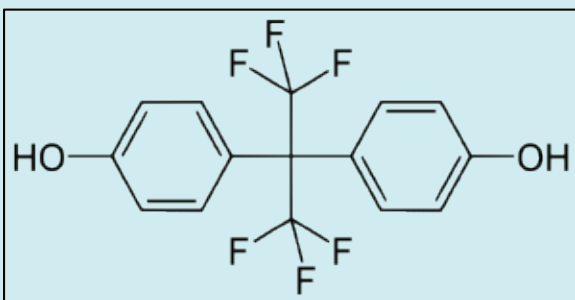
4,4'-(propane-2,2-diyl) diphenol



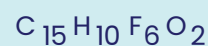
Bisphenol B



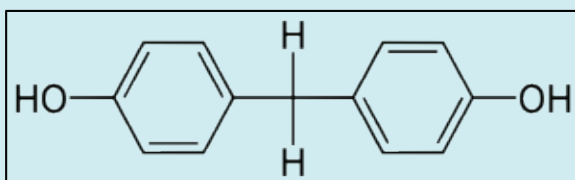
2,2-Bis(4-hydroxyphenyl)butane



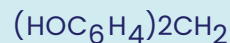
Bisphenol AF



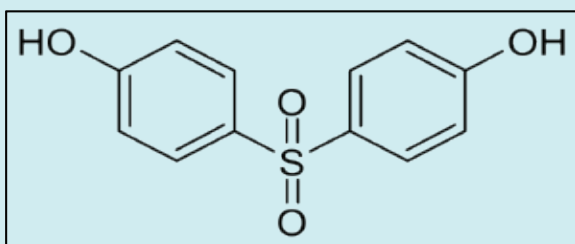
4,4'-(1,1,1,3,3,3-Hexafluoropropane-2,2-diyl)diphenol/
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol



Bisphenol F



4,4'-dihydroxydiphenylmethane



Bisphenol S



4,4'-sulphonyldiphenol

Aromatic Syntans:

- Receives much attention due to their advantages of filling property, dispersibility, and bleachability.
- Well suited for all color shades and result in leathers with a better lightfastness, compared to leathers retanned with vegetable tannins.
- Generally prepared through condensation, sulfonation, and other reactions by using phenol or naphthalene, formaldehyde, and concentrated sulfuric acid as raw materials.

Common compounds in aromatic syntans:

- Phenolic monomers such as phenol
- Phenol sulfonic acid
- Bisphenol S (dihydroxy diphenyl sulphone)
- Bisphenol F
- These compounds are used as either starting materials or intermediate molecules formed during the manufacturing process.

Application of Bisphenols in Leather Processing

- In general, aromatic syntans are condensates of phenolsulfonic acid and/or phenol and/or dihydroxydiphenylsulfone (DHDPS or Bisphenol S) with formaldehyde where urea is optionally used.
- Bisphenol S (dihydroxy diphenyl sulphone) is used as raw materials for the manufacturing of sulphone syntans.
- Depending upon the efficiency of the condensation process, a certain amount of phenolic monomers are left unreacted during the manufacturing process. This unreacted phenol may react with formaldehyde, resulting in the formation of bisphenol F.
- These unreacted phenolic monomers such as phenol, phenolsulfonic acid and bisphenol S/F that are present in the syntans, will be transferred to the leather during the (re)-tanning processes.

Regulatory Restrictions on Bisphenol Derivatives and their Impact on the Global Leather Market.

- Bisphenol and its derivatives are known endocrine disruptors that are harmful to both human health and the environment, as well as causing reproductive toxicity.
- In 2020, the European Chemicals Agency (ECHA) and the EU Member States screened data on a large group of Bisphenols such as BPA, BPS, BPF, BPAF and their derivatives and recommended the restriction of more than 30 bisphenols.
- In 2022, The European Chemicals Agency (ECHA) pre-published a Restriction draft on BPA & BPS; including BPS/ BPF based on the Annex XV Restriction report prepared by Germany, which proposes a concentration limit of 500 ppm for leather articles and mixtures used for the tanning of leather for a 5-year period.
- On January 17, 2023, the European Chemicals Agency (ECHA) added nine substances to the Candidate List of substances of very high concern (SVHC) under the REACH Regulation, including 4,4'-sulphonyl diphenol (Bisphenol S) and Melamine.
- The restriction proposal and the new addition of Bisphenol S in SVHC, result in high demand for Bisphenol free and low bisphenol leather and chemicals in the global leather market.

GG Organics Solutions for Low Bisphenol Regulations

GG Organics is proud to be at the forefront of the leather industry for over decades, providing cutting-edge technology, development and technical services. Our commitment to the customer and the environment is paramount, and with the introduction of new regulations on Bisphenols, we are proud to be the first Indian company to present solutions with the launch of our syntan range.

Our new syntans are designed to comply with the upcoming bisphenol limits and we are continually investing in research to ensure our customers remain in compliance with future regulations. With our expertise and unparalleled positioning, GG Organics is your ideal partner to help you stay ahead of the game and remain compliant with ever-changing regulations.

BENITAN

Protect your leather with specially formulated chemicals

The leather industry is facing a daunting challenge in meeting the environmental standards due to the use of high impact chemicals in the leather processing. Formaldehyde, a known carcinogen, is used in the production of syntans while bisphenols and Bisphenol of Similar Concern (BoSC - Bisphenol A, B, AF, F and S), a family of synthetic organic chemicals, are used in the production of polymers, plastics, and retanning agents, which are known endocrine disruptors, making it essential to find a safe and sustainable solution for the tanners.

To address this issue, GG Organics has developed no formaldehyde syntans from special derivatives and low bisphenol syntans made using novel methodologies and its monomer chemistry, aiding tanners in producing high-quality leather and giving immense benefits to people and nature.

GG Organics is proud to launch its Benitan brand - a collection of specially formulated, superior quality and safe chemicals. With Benitan, you can trust that you're using high quality products that are sure to deliver remarkable results.

GG Organics BENITAN Range

The GG Organics BENITAN range is the ideal choice for leather producers looking to create premium quality leathers without the risk of formaldehyde and bisphenols. Our BENITAN products are safe retanning chemicals that give tanners an edge in the market by creating risk-free leathers.

Benefits of BENITAN

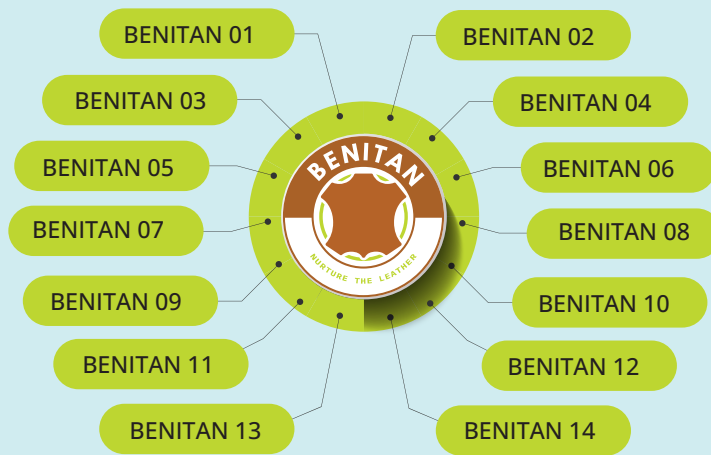


BENITAN PRODUCTS

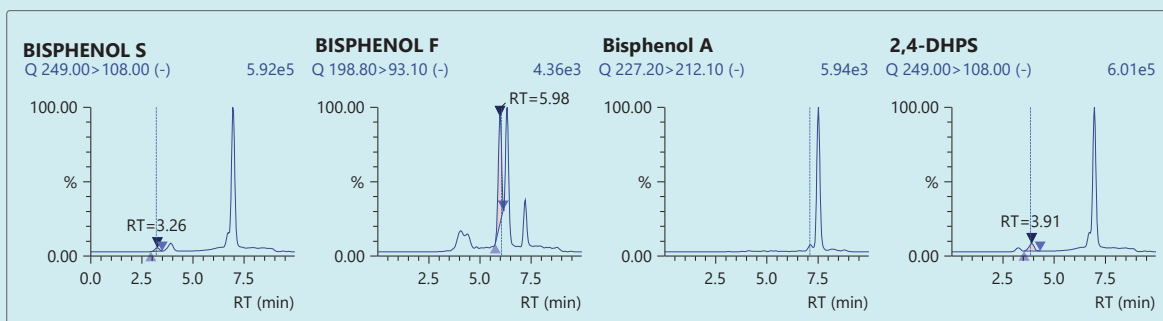
- The Benitan products are most suitable for the production of top-quality leather such as Shoe upper, goods, garments and upholstery
- Low Bisphenol Retanning Agents: Benitan B01, Benitan B02, Benitan B04, Benitan B05 and Benitan B08- Benitan B14
- Safe products with No Formaldehyde: Benitan F03, Benitan F06 and Benitan F07

Minimizing the bisphenol content of leather with GG Organics BENITAN Product Range

- GG Organics has developed phenol-based retanning agents with desired limits of bisphenol content by using an innovative process, technology and monomer chemistry.
- BPA, BPB and BPAF are not present in any of our retanning agents.
- The real challenge is matching the properties of conventional syntans. We did this with our new range.
- GG Organics' cutting-edge laboratory has been upgraded with advanced LC-MS testing equipment for identifying the concentration of bisphenol in retanning agents and leather. This would ensure an efficient delivery mechanism in the frontier areas of the leather industry.
- All of our low bisphenol products are evaluated with LC-MS technology, and the results were below the limit proposed by BAuA and the major customers.
- In the leather industry, these phenol/sulphone syntans are primarily used for pre-tanning, tanning, retanning, and dyeing.



Product Name	BENITAN B01	BENITAN B02	BENITAN B04	BENITAN B05	BENITAN B08	BENITAN B09	BENITAN B10
	Concentration (PPM)						
4,4 - DHPS	< 11 ppm	< 8 ppm	< 3 ppm	< 2 ppm	< 6 ppm	< 2 ppm	< 6 ppm
Bisphenol A	----	----	----	----	----	----	----
Bisphenol F	----	< 3 ppm	< 2 ppm	< 2 ppm	< 2 ppm	< 2 ppm	< 2 ppm
Bisphenol AF	----	----	----	----	----	----	----
Bisphenol B	----	----	----	----	----	----	----
Phenol	----	----	----	----	----	----	----
2,4 - DHPS	< 3 ppm	< 5 ppm	< 2 ppm	< 2 ppm	< 4 ppm	< 3 ppm	< 7 ppm



BENITAN SPECIALTIES FOR THE LEATHER INDUSTRY

01	BENITAN B 01 Amphoteric synthetic tanning agent Excellent filling and dispersing effects Excellent light fastness and imparts brilliant shade	08	BENITAN B 08 Universal Retanning Agent Exceptional fullness and mellow feel Excellent light fastness and buffing properties
02	BENITAN B 02 Compact retanning agent Enhance fullness and grain tightness Imparts good levelling of dye	09	BENITAN B 09 Phenol based white syntan Excellent fullness and smooth grain Recommended for white and light color leather
03	BENITAN F 03 Resin syntan with cationic nature No formaldehyde condensate Improve better exhaustion and imparts high shrinkage temperature	10	BENITAN B 10 Multipurpose phenolic syntan Powerful whitening syntan with high filling properties Can be used at all stages of leather processing
04	BENITAN B 04 Phenolic replacement syntan Excellent fullness and uniform grain appearance Good fibre compaction and improved tensile strength	11	BENITAN B 11 Special tanning agent Exceptional filling and grain tightness Suits for both veg and chrome leather
05	BENITAN B 05 Pretanning syntan Strong pretanning syntan for vegetable tanned leather It has the capacity to allow vegetable extracts to penetrate uniformly	12	BENITAN B 12 Liquid retanning agent Good filling without hardening the leather Imparts grain tightness, whiteness and very good lightfastness
06	BENITAN F 06 Compact syntan Imparts outstanding grain tightness and mellowness Provide excellent fullness and buffability	13	BENITAN B 13 Liquid syntan for milled leather Fine grain leather with elegant milled pattern and mellow feel Excellent fullness and outstanding softness
07	BENITAN F 07 Phenol based retanning syntan Outstanding softness, excellent fullness and round handle Fine and tight grain	14	BENITAN B 14 Pretanning liquid syntan Multipurpose liquid syntan Exceptional grain tightness and lightfastness Produce smooth and fine grain with good softness

Safe Products from GG Organics (Completely Bisphenol Free)

01	ORGTAN RMI
02	ORGTAN RP7
03	ORGTAN VC
04	ORGTAN GMB
05	ORGTAN GGP
06	ORGTAN FP
07	ORGTAN FD
08	ORGTAN UT

The information presented here serves as an informational source only. GG Organics does not guarantee the accuracy of the provided information and is not liable for any inaccuracies, colour or printing errors, or any damages caused by relying on the information.



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GG Organics Pvt. Ltd.

122/6, V.O.C Street, Villianur Commune,
Thuthipet Revenue Village,
Puducherry - 605 502, INDIA



☎ 044 2262 0026

✉ tech.support@ggorganics.co.in

🌐 www.ggorganics.com