Gangwal®

Bringing Life to Formulations

Pharmaceutical Speciality Excipients & APIs

About us

Gangwal is a progressive and innovative business group with a clear vision and ascertaining new challenges, having a strong foundation supported by strong pillars of committed experts from all business functions.

Gangwal was founded in 1987 with a clear vision for providing innovative products and services for rapidly growing Pharmaceuticals, Nutraceutical, Personal Care, Research & Analytical, Health Care, Food & Nutrition sectors in India.

Envisaging the need of the Pharmaceutical and Nutraceutical sectors, Gangwal was first to introduce Cyclodextrins, concept of Carnitine, veg origin DHA, multi sweeteners concept like Sucralose, Neotame, Acesulfame K, Fructose and Lactitol etc. in India.

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Our Manufacturing Facility

Gangwal has state of the art manufacturing facilities following current Good Manufacturing Practices (cGMP) and controls in manufacturing, processing, packaging and storage of APIs. They are in accordance with the ICH Guideline Q7 Good Manufacturing Practice Guidance for Active Pharmaceutical Ingredients. All the manufacturing processes and testing methods are clearly defined and recorded and critical control points identified and controlled. Operational instructions and procedures are written in clear and unambiguous english language. All critical processes and equipment used to manufacture and testing the material are validate to ensure consistency and compliance with specifications. Manufacturing and operational staff personnel are experienced and trained in Standard Operating Procedures (SOPs) to carry out and document the process efficiently.

Gangwal has an ultramodern ISO 9001-2008 accredited facility certified by and complying **WHO-GMP** for the manufacture of wide range of products comprising Specialty APIs, Intermediates, Excipients, Sweeteners and Extracts.

Manufactured products

APIs

Product Name	CAS	Therapeutic
Cyclizine HCl	[303-25-3]	Antiemetic
Formoterol Fumarate	[43229-80-7]	Antiasthmatic
Isoxsuprine HCl	[579-56-6]	Vasodilator
L-Carnitine L-Tartrate	[36687-82-8]	Muscle disorder & heart ailment
Modafinil	[68693-11-8]	CNS Stimulant
Salmeterol Xinafoate	[94749-08-3]	Bronchodilator
Timolol Maleate	[26921-17-5]	Antiglaucoma

EXCIPIENTS

DiCOM-DC™
(Co-Processed Excipient system for direct compression)

ProBlend™
Silicified Microcrystalline Cellulose
(Silicified Microcrystalline Cellulose) USP

STARLOSE™
Starch & Lactose
(Co-Processed Maize Starch & Lactose Monohydrate)

Microlose™
(Lactose Monohydrate & Microcrystalline Cellulose)

RISTAR™
(Rice Starch)

Innogel™ 9000
(Pregelatinized Starch)
IP/BP/EP/USP-NF DMF

RANGE OF CYCLODEXTRINS AND IT'S DERIVATIVES

Complexol-HP®
(Hydroxypropyl Betadex)
USP-NF/Ph.Eur./BP/DMF

Complexol-B™
(Betadex) USP-NF / Ph. Eur. / BP / IP

Manufactured products

SWEETENERS

sucreX®
Sucralose
(IP/BP/EP/USP)

sweetACE®
Acesulfame K
(IP/BP/EP/USP)

Cutcal™
Neotame
(IP/USP)

SPHERES FOR PHARMACEUTICALS AND COSMETICS

Gellets-P™

Gellets-C®

SOFTGEL CAPSULE

Sorbiplast™
Plasticizer For Soft Gel Capsule

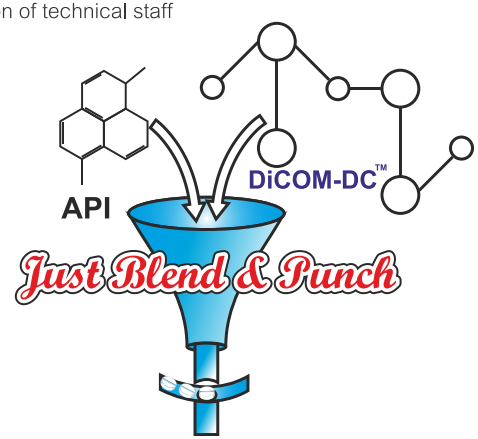
Manufactured products

• DiCOM-DC™

Ready to use co-processed, direct compression excipient

A Complete Excipient System for Direct Compression

- A tailor made, co-processed excipient for range of Active Pharmaceutical Ingredients (APIs)
- Homogeneous mixture of Excipients such as Bulking agent / Binders / Disintegrants and Anti-Adherents
- Designed, developed and manufactured in the cGMP, FDA approved facility under expert supervision of technical staff



Available in following grades

- DiCOM-DC™PL – for small dose APIs, large dose APIs with good compressibility
- DiCOM-DC™DT – for low disintegrating formulations
- DiCOM-DC™SP – for moisture protective and pH sensitive APIs
- DiCOM-DC™SR – for sustained release formulations
- DiCOM-DC™EF – for effervescent tablets
- DiCOM-S® – Single modified high performance range of excipients

DiCOM-DC™ is best adjusted to suit APIs and customers requirments


Save Time & Efforts


Increase Output Substantially


Save Money

Manufactured products

ProBlend™
Silicified Microcrystalline Cellulose

Silicified Microcrystalline Cellulose (SMCC) - USP

Silicified Microcrystalline Cellulose (SMCC) is a co-processed excipient consisting of MCC and colloidal silicon dioxide (CSD).
CSD is homogenously distributed throughout the finished product and adsorbed on the particle surfaces of microcrystalline cellulose

ADVANTAGES

- Shortens manufacturing timelines
- Improved compatibility and Robust tablets along with low DT
- Easy and early formulation
- No need of other auxiliary excipients
- Blend homogeneity even for low dose and micronized API's

APPLICATIONS

- Use as a cushioning agent in MUPS ODT formulations
- Use as diluent in immediate release formulations for low DT
- In capsule dosage form

STARLOSE™
Starch & Lactose

Co-processed Maize Starch & Lactose Monohydrate

Its a co-processed excipient of maize starch & lactose monohydrate, Both excipients are widely used in pharmaceutical formulations.
Lactose and starch are well known for their binding and diluent functionalities. Additionally, starch can be used as disintegrant.
To take the advantage of lactose and starch both of these excipients were co-processed with the state of the art technology.
Synergistic effects were observed in flow properties and compressibility and direct compression as compared to physical mixtures, at the same time faster tablet disintegration.

ADVANTAGES

- Direct Compression
- In capsule dosage form
- Dry granulation

APPLICATIONS

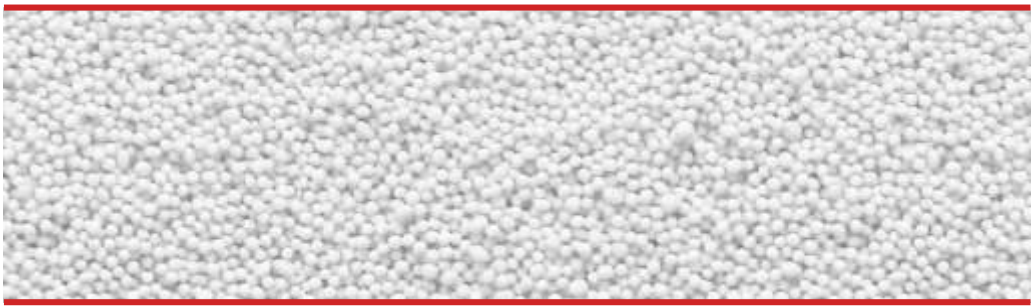
- As diluent
- As binding agent

Gellets-P™

Neutral Pareil Seeds- Beadleds of microcrystalline cellulose with different particle size, suitable as MUPS and extended release, drug layered formulations.

Properties :

- Low friability
- Consistent Sphericity
- Tight particle size control
- High batch to batch uniformity



Grades	# 14-18	# 18-20	# 20-30	# 30-40	# 40-60	# 60-100
Particle Size (µm)	1000-1400	840-1400	600-850	400-600	250-400	150-250

Other than above, suitable particle size grade can be provided for high volume requirement

Complexol-HP®

Hydroxypropyl Betadex USP-NF / Ph. Eur. / BP / DMF No. : 23816

- Complexol-HP® helps to improve Solubility, Compatibility and Stability
- Potential to enable faster acting versions of many currently approved oral products
- Molecular Encapsulation of wide range of molecules/compounds
- Allows formulation of water-insoluble APIs in all dosage forms, including oral, injectables, ophthalmic, nasal, topical and inhalation products
- Increased Bioavailability
- Chemically and Thermally stable & Non-toxic

FORMULATION / APPLICATION	API / ACTIVE
Eye Corticosteroids	Dexamethasone
Eye Antiseptics with Corticosteroids	Dexamethasone phosphate + Moxifloxacin HCL, Tobramycin + Dexamethasone
Antiseptics with Corticosteroids	Chloramphenicol + Dexamethasone Sodium Phosphate, Dexamethasone + Sparfloxacin
Eye Antiinfectives & Antiseptics	Chloramphenicol, Gatifloxacin, Moxifloxacin, Norfloxacin
Eye/Ear Antiinfectives & Antiseptics	Ciprofloxacin, Neomycin, Ofloxacin, Gentamicin, Framycetin
Mydriatic Drugs	Cyclopentolate
Nasal Drops	Flunisolide
Topical Corticosteroids	Fluocinolone Acetonide
Topical Antibiotics	Gentamicin
Topical Antifungals & Antiparasites	Miconazole, Clotrimazole
Topical Antiinfectives with Corticosteroids	Ciprofloxacin + Fluocinolone acetonide, Ciprofloxacin hydrochloride + Clotrimazole + fluocinolone, Fluocinolone acetonide + Neomycin, Econazole nitrate + Fluocinolone acetonide + Gentamycin
NSAID	Meloxicam, Ketoprofen
Antiemetics Supportive Care Therapy	Albendazole, Ondansetron
Antifungals - Solid Dosage form	Voriconazole, Itraconazole, Griseofulvin, Ravuconazole
Anticonvulsant	Phenytoin
Anti-mucositis	Rutin
Anti-Histamine	Promethazine
Amine Complexing agent in Cosmetics	2-ethylhexyl p-(dimethylamino)benzoate
Sedative-hypnotic	Zolpidem
Promising compound for therapy in Cerebral Ischemia	Levemopamil Hcl
Bacteriostatic Antibiotic	Sulfamethoxazole
Anticonvulsant and mood-stabilizing drug	Carbamazepine

- The American FDA has given market approval for solid oral, liquid oral, ophathalmic and intravenous formulations containing HPBCD derivatives
- Complexol-HP® is registered Type IV DMF No. : 23816
- HPBCD is also included in Inactive Ingredient database (IIG) of USFDA
- HPBCD is introduced into Generally Regarded As a Safe (GRAS) list of the USFDA

Complexol-B™

Betadex USP-NF / Ph. Eur. / BP / IP

- **Solubilization** of poorly and or sparingly water soluble compounds
- **Stabilization** of sensitive, reactive or labile compounds
- Taste & odour masking
- **Controlled release** of water insoluble, highly reactive or volatile materials, e.g. fragrances, flavors, catalysts, agrochemicals and low molecular weight additives
- **Chiral resolution** via chromatography as a mobile or stationary phase modifier
- **Reduction** of solvent requirements in chemical processes and products, e.g. electroplating solutions, paints and printing inks

FORMULATION / APPLICATION	API / ACTIVE
Antacids, Anti-reflux Agents & Anti-ulcerants	Rabeprazole
Anti-bacterial Combinations	Norfloxacin + Tinidazole
Anti-depressant	Lorazepam
Anti-diabetic	Glipizide, Glibenclamide
Anti-fungals	Itraconazole, Terbinafine, Griseofulvin
Anti-hypertensive	Chlorthalidone
Anti-migraine Preparations	Flunarizine
Bacteriostatic Antibiotic	Sulfamethoxazole
GIT Regulators, Anti-flatulents & Anti-Inflammatory	Mosapride
NSAID	Aceclofenac, Aceclofenac + Paracetamol, Piroxicam, Nimesulide, Ketoprofen, Ibuprofen, Praziquantel
Muscle Relaxants	Tizanidine

Our Business Associates

AstaReal
Be you, Just healthier
The best Natural Astaxanthin

CYDEX
(Ligand Pharmaceutical Inc.)

BIOFAC

DOOSAN

Flamma

Fuji Chemical Industries

GELTECH

HAYASHIBARA

JOINWAY

LACTEL
DURECT Corporation

LOTTE
FINE CHEMICAL

Lubrizol

NIPPON GOHSEI

NISSO HPC

Purolite

RAISIO

sanyo
CHEMICAL INDUSTRIES

SEPPIC

SIO
Quality.Specialty
OILS & FATS

SunOpta

Tatua

生命科技

SUHEUNG CAPSULE

SUMITOMO SEIKA

Traded products

Company	Products
AstaReal Be you, Just healthier The best Natural Astaxanthin	**AstaReal®** • **Natural Astaxanthin** produce from Haematococcus pluvialis approved in FSSAI & US FDA GRAS, based on safety and toxicity data provided by Fuji Chemical. • **Natural Astaxanthin** has highest ORAC value and 6000 times powerful compared to vitamin C and 800 times more powerful compared to Co Q10 in terms of singlet oxygen quenching capacity. • AstaReal® is the most studied brand of **Natural Astaxanthin** with more than 112 human clinical trials in various therapeutic indication such as eye fatigue relieve, skin aging defence, neuromuscular protection, mental and physical fatigue, immune system booster, cardiovascular health, fertility, liver health, metabolic syndrome, muscle resilience, sarcopenia, anti-diabetes or kidney protection, lowering gastric inflammation, capillary circulation, etc . • Fuji Chemical also holds NDI (New Dietary Ingredient) approval for the **Natural Astaxanthin** product from USFDA.
BOAI NKY PHARMACEUTICALS LTD *CHINA*	KoVidone™ (PVP K Series - K-17, K-30, K-90 (USP / EP / BP / IP) PolyKovidone™ (USP / EP / BP) (Crospovidone) (PVPP) KoVidone VA64 (Poly Vinyl Pyrrolidone and Vinyl Acetate Co-polymer as per USP/NF, EP) WhiVidone™ PVP - H_2O_2 complexes OraRez W (PVM/MA Copolymer) PolyFilter® PVPP Vinyl Caprolactum (V cap) : Diluent for coating plastics Vinyl Caprolactum CoPolymer N – Cyclohexyl - Pyrollidone CoPovidone - (VA-64) PVP-I (Povidone-Iodine)
DENMARK	Enzymes Enzyme Inhibitor Glycoproteins Laxatives and Astringents / Lactulose Microbiology / Diagnostics

Company Products

DOOSAN

KOREA

Product	Purity		Use
Egg Yolk Lecithin Powder			
• DS-PL95E	PC : 70.0-85.0	PE : 12.0-18.0	Emulsifier*
• DS-PL95EN	PC : >80.0	PE : 7.0-9.5	Emulsifier*
Sodium Salt, Oleic Acid Powder			
• DS Sodium Oleate	Sodium : 7.0 - 8.5	Sodium oleate : >60.0%	Co-Emulsifier*
Soya Lecithin; Choline Alfoscerate			
• DS-GPC85#	Assay : m.t. 98.0 %	Water : 14.0-18.5%	Brain Supplement
• DS-GPC100#	Assay : m.t. 98.0 %	Water : n.m.t. 1.0%	Brain Enhancement

*Application = Pharmaceutical Parenteral Injections

#Marked API can be Sourced from Doosan's partnering companies

Nutraceutical Ingredients
Brain Nutrition

DS-PS20P / 40P / 50P, PS50PW DS-PS20F	(Non-GMO) Soy Phosphatidylserine Powder/Fluid Type	Memory and Cognitive function enhancement
DS-SOS	Egg Yolk Peptide Powder Type	Brain development Immunity Bone growth

Flamma

ITALY

Pharmaceutical Active Ingredients

Products	CAS
Acetyl – DL – Leucine	99-15-0
Aminexil	74638-76-9
Di-Ornithine Ketoglutarate	5144-42-3
Hydrochlorothiazide	58-93-5
Ketoprofen Lysine Salt	57469-42-3
L-Arginine-L-Aspartate	7675-83-4
Losartan Potassium	124750-99-8
Magnesium DL-Aspartate	7018-07-7
Magnesium aspartate tetrahydrate	7018-07-7
Melatonin	73-31-4
Methacholine chloride	62-51-1
Minoxidil	38304-91-5

Flamma
ITALY

Products	CAS
Nimesulide (Micronized)	51803-78-2
L-Ornithine-L-Aspartate	3230-94-2
DL-Phosphoserine	17885-08-4
L-Phosphoserine	407-41-0
L-Phosphothreonine	1114-81-4
Potassium DL-Aspartate	923-09-1

Nutraceutical

Nutraceutical Active Ingredients	CAS
Acetyl Thiazolidin Carboxylic Acid	5025-82-1
Acetyl-L-Aspartic acid (L)	997-55-7
Acetyl-L-Glutamine	2490-97-3
Acexamic Acid	57-08-9
Asparagine anhydrous (L)	70-47-3
Asparagine monohydrate (L)	5794-13-8
Aspartic acid sodium salt monohydrate (L)	3792-50-5
L- Carnosine	305-84-0
Creatinine	60-27-5
Ornithine Ketoglutarate (L)	5191-97-9

Fuji Chemical Industries
JAPAN

Fujicalin® SG - The Unique synthetic spray dried, non-abrasive DCPA (Dibasic Calcium Phosphate Anhydrous) designed for functions as

- A direct compression excipient with high exceptional flow and compression characteristics
- Porous Spherical Spheres with high specific surface area
- Good compressibility at low compression force
- Less chances of black particle generation or greyish tablets compared to other conventional DCPA.
- Neutral pH

Neusilin® - A multi –problem solver Synthetic Magnesium Aluminometasilicate (SMAS)

- Available in Alkaline and Neutral grades
- High oil adsorbing capacity
- Anticaking and flow aid property at low concentration
- Drug stabilization and Moisture protection property
- Hardness improvement

F-Melt Type C/M/F1 – A Proprietary Co-processed Spray Dried Excipients Blend

- Ready to use, blend and punch excipient system for pharmaceutical, nutraceutical and dietary supplement applications
- For Orally Disintegrating Tablets,
- Chewable Tablets,
- Dispersible Tablets,
- Sublingual Tablets

GELTECH
KOREA

US-FDA approved
EDQM Certified

Bovine Hide Gelatin

Grade	Gel Strenth	Viscosity	Transmittance	Ash	Particle size
Soft Capsule	140 ~ 160 Bloom	34 ~ 38 mps	≥ 90%	≤ 1.5%	10 ~ 60 US Mesh
Soft Capsule	190 ~ 210 Bloom	27 ~ 32 mps			8 ~ 40 US Mesh
Hard Capsule	250 Bloom	45 ~ 48 mps			8 ~ 40 US Mesh

Succinylated Gelatin

Grade	Gel Strenth	Viscosity	Transmittance	Ash
Soft Capsule	200 Bloom	37 ~ 45 mps	≥ 90%	≤ 3.5%

Fish Gelatin

Grade	Gel Strenth	Viscosity	Transmittance	Ash
Soft Capsule	200 Bloom	30 ~ 36 mps	≥ 40%	≤ 1%
Hard Capsule	250 Bloom	35 ~ 42 mps		

HAYASHIBARA
JAPAN

Pullulan

- A natural and innovative polysaccharide produced from starch syrup by fermentation
- Polymer for oxygen barrier film coating system
- Polymer for mouth dissolving strips / films

Sunmalt™ –S

- A high purity SPRAY DRIED MALTOSE produced by enzymatic hydrolysis of starch

Maltose PH - Low Endotoxin grade maltose available for injectables

Trehalose

- A multifunctional disaccharide produced by enzymatic modification of starch, and consists of two glucose molecules linked by an á,á-1,1 bond.

Trehalose SG – Low Endotoxin grade Trehalose available for injectables

Trehalose 100PH - Sweetener, taste and odor masking for solid orals

LACTEL Absorbable Polymers
DURECT Corporation
USA

Ester Terminated Polymers

New Product no.	Chemical Name	End Group	Abbreviation	Inherent Viscosity [IV]
B6017-1	50:50 Poly(DL-lactide-co-glycolide)	E	50:50 DL-PLG	0.15-0.25
B6010-1	50:50 Poly(DL-lactide-co-glycolide)	E	50:50 DL-PLG	0.26-0.54
B6010-2	50:50 Poly(DL-lactide-co-glycolide)	E	50:50 DL-PLG	0.55-0.75
B6010-3	50:50 Poly(DL-lactide-co-glycolide)	E	50:50 DL-PLG	0.76-0.94
B6010-4	50:50 Poly(DL-lactide-co-glycolide)	E	50:50 DL-PLG	0.95-1.20
B6001-1	65:35 Poly(DL-lactide-co-glycolide)	E	65:35 DL-PLG	0.55-0.75
B6007-1	75:25 Poly(DL-lactide-co-glycolide)	E	75:25 DL-PLG	0.55-0.75

DURECT Corporation
USA

New Product no.	Chemical Name	End Group	Abbreviation	Inherent Viscosity [IV]
B6006-1	85:15 Poly(DL-lactide-co-glycolide)	E	85:15 DL-PLG	0.55-0.75
B6005-1	Poly (DL-lactide)	E	DLPLA	0.26-0.54
B6005-2	Poly (DL-lactide)	E	DLPLA	0.55-0.75
B6002-2	Poly (L-lactide)	E	LPLA	0.90-1.20
B6003-1	Poly (ε-caprolactone)	E	PCL	0.65-0.85
B6003-2	Poly (ε-caprolactone)	E	PCL	1.00-1.30
B6015-1*	25:75Poly(DL-lactide-co-ε-caprolactone)	E	25:75 DL-PLCL	0.70-0.90
B6016-1*	80:20Poly(DL-lactide-co-ε-caprolactone)	E	80:20 DL-PLCL	0.70-0.90
B6020-1	Poly (DL-lactide)	E	DL-PL	0.16 ~0.24
Acid Terminated Polymers				
B6014-2	Poly (DL-lactide)	A	DL-PL	0.26 ~0.54

- Call for availability End Group E = EsterTerminated A=Acid Terminated
- Minimum order size is 20grams

Acid Terminated Polymers

New Product no.	Chemical Name	End Group	Abbreviation	Inherent Viscosity [IV]
B6013-1	50:50 Poly(DL-lactide-co-glycolide)-COOH	A	50:50 DL-PLG-COOH	0.15-0.25
B6013-2	50:50 Poly(DL-lactide-co-glycolide)	A	50:50 DL-PLG-COOH	0.55-0.75
B6014-1*	Poly (DL-lactide)	A	DL-PLA-COOH	0.15-0.25

- Call for availability End Group E= Ester Terminated A= Acid Terminated
- Minimum order size is 20 grams.

Sample Kits

Product no.	Product Name	Samples Per Kit	Description
SK-A	Sample Kit A	5 samples	Five 10 g samples of 50:50 Poly(DL-lactide-co-glycolide) with inherent viscosities ranging from 0.15-1.2 dL/g
SK-B	Sample Kit B	3 samples	Three 10 g samples of Poly(DL-lactide-co-glycolide) ranging from 50-100 mole% DL-lactide, inherent viscosity within 0.55-0.75 dL/g
SK-C	Sample Kit C	2 samples	Two 10 gram samples of crystalline homopolymers: poly(L-lactide) & poly(ε-caprolactone)
CK-1	Custom Kit 1	4 samples	Four 10 g samples of your choice from available inventory

★ **Glucose Star Polymer [55:45 Poly (DL-lactide-co-glycolide), D-Glucose Initiated, Precipitated (Nominal)]**

JOINWAY
CHINA

Joinpure LP-11/21 (L-HPC grades LH-11 & LH-21)
– Low substituted Hydroxypropyl Cellulose

Company	Products

NIPPON GOHSEI

JAPAN

Gohsenol EG – PolyVinyl Alcohol (with different viscosity Grades)

Grades	Degree of Hydrolysis [mol%]	Viscosity*1,*2 (Center value) [mPa s]	Applications
EG-03P	86.5-89.0	3.4	Binder, Emulsifier
EG-05P, PW		5.3	Granulating Agent, Binder , Coating
EG-18P		18.0	Gel Patches, Binder
EG-30P, PW		30.0	Gel Patches, Ophthalmic
EG-40P, PW		43.0	Ophthalmic, Binder , Emulsifier
EG-48P		48.5	Ophthalmic
EG-48 CRM		48.5	Sustained Release Matrix

P-Granular Type: PW-Powder Type
*1 :- 4% aqueous solution at 20°c
*2 :- Indicated as general value, we have viscosity standard fulfilling requirement of USP, EP & JP

CYDEX

USA

(Ligand Pharmaceutical Inc.)

Captisol®

A polyanionic beta-cyclodextrin derivative with a sodium sulfonate salt separated from the lipophilic cavity by a butyl ether spacer group, or sulfobutylether (SBE). Captisol® is comprised of a multitude of polymeric structures of varying degrees of substitution and positional/regional isomers dictated and controlled to a uniform pattern by a patented manufacturing process consistently practiced and improved to control impurities.

- Allows formulation of water-insoluble APIs in all dosage forms, including oral, injectables, ophthalmic, nasal, topical and inhalation products
- Improved Solubility, Compatibility, Improved Stability
- Better bio availability than methods of solubilization using nano particles and solvent systems
- Permits lower dosing of APIs (i.e. potential for dose sparing)
- Shelter the API from oxidative and hydrolytic degradation
- Protects against effects from elements such as heat and light
- Tastelessness in oral formulas (taste masking in oral, nasal and inhalation preparations)
- Reduction of irritation at site of injection in injectable formulas (parenteral)
- Potential to enable faster acting versions of many currently approved oral products
- Excellent safety record (Captisol® is safe when administered parenterally or orally and does not exhibit the nephrotoxicity associated with beta-cyclodextrin)
- Simplified preparation process, eliminating the need for refrigeration for some commercial products

Company	Products

NISSO HPC
JAPAN

HPC (Hydroxy Propyl Cellulose) EP/JP/USP/NF (DMF No: 26384)

Regular Type

Grade	SSL	SL	L	LM	M	H
Viscosity*(mpa.s)	2.0-2.9	3.0-5.9	6.0-10.0	75-150	150-400	1000-4000

99% Passes through 40 Mesh Sieve (350 Micron)

*Measured the values of an aqueous solution containing 2% by weight of dry HPC at 20° C

Fine Powder Type

Grade	SL	L	M	H
Viscosity*(mpa.s)	3.0-5.9	6.0-10.0	150-400	1000-4000

99% Passes through 100 Mesh Sieve (150 Micron)

*Measured the values of an aqueous solution containing 2% by weight of dry HPC at 20° C

HPC-SFP-Grade (New super Fine Powder for direct compression process)

New Super Fine Powder for Direct Compression Process HPC-SFP-Grade

- Very fine particle size of 20 microns
- Good compression properties at very low use levels
- Excellent tablet hardness with low friability
- Faster drug dissolution
- Suitable for high dose APIs
- Applicable to poorly compressible APIs

Purolite
USA

ION Exchange Resins

- Active Pharmaceutical Ingredients
  - C100MRNS– Sodium Polystyrene Sulfonate
  - C100CAMR – Calcium Polystyrene Sulfonate
  - A430MR – Cholestyramine
- Excipients and Tablet disintegrants
  - C115HMR – Polacrilex
  - C115KMR – Polacrilin Potassium

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sanyo CHEMICAL INDUSTRIES
JAPAN

Polymethacrylate Co-polymer (USP-NF/EP/JPE)

- Polyquid PA-30 : Methacrylic Acid and Ethyl Acrylate Copolymer Dispersion (1:1)
- Polyquid PA-100 : Methacrylic Acid and Ethyl Acrylate Copolymer (1:1)
- Polyquid LA-100 : Methacrylic Acid Copolymer Type A
- Polyquid SA-100 : Methacrylic Acid Copolymer Type B
- Polyquid EA-100 : Amino Methacrylate Copolymer
- Polyquid EM-30 : Ethyl Acrylate Methyl Methacrylate Copolymer Dispersion

Company	Products
SEPPIC FRANCE	**Sepifilm™ LP:** HPMC + Stearic acid based, moisture barrier film coating system **Sepifilm™ PW:** HPMC + PEG + TiO based film coating system **Sepifilm™ Classic:** HPMC based film coating system for pharmaceutical and Nutraceutical formulations **Sepifilm™ SC:** HPMC + Sucrose + TiO based sugar coating system **Sepitrap™ 80:** Polysorbate 80 in powder form **Sepitrap™ 4000:** Polyoxyl-40-hydrogenerated castor oil in powder form **Sepistab ST 200:** Partially Pregelatinized Starch **Sepifilm™ NAT :** Readymix coating system + Natural color **Sepineo™ P600:** (Acrylamide / Sodium Acryloyldimethyl Taurate Copolymer / Isohexadecane / Polysorbate 80) The 3 in 1 Polymer ready to use in fluid form, thickener, stabilizer and emulsifier **Sepineo™ D.E.R.M.:** (Hydroxyethyl Acrylate/ Sodium Acryloyldimethyl Taurate Copolymer) Thickener, stabilizer & texturing agent in powder form for topical applications **Sepineo™ P.H.D 100:** (Polyacrylate Crosspolymer-6) Anionic associative polymer, resistant thickening- stabilizing polymer for skin care hygiene **Sepineo™ SE 68:** O/W Self-Emulsifier for pharmacy **Montane™ 20/60/80 PHA PREMIUM:** Sorbitan esters (Sorbitan Laurate/ Stearate/Oleate) **Montanox™ 20/60/80 PHA PREMIUM:** Polysorbate 20/60/80 **Simulsol™:** Macrogol Stearate (Ethoxylated Fatty Acid)
Serdex a subsidiary of SEPPIC FRANCE	**TECA™ Titrated Extract of Centella Asiatica, pharmaceutical grades:** (ASIATICOSIDE & MADECASSIC ACID & ASIATIC ACID) highly purified active ingredients extracted from Centella Asiatica and other Malagasy plants. These active ingredients are dedicated to pharmaceutical markets. Centella Asiatica is already enlisted under FSSAI as an approved active ingredient. **Application:** • Wound Healing • Chronic Venous Insufficiency • Diabetic Microangiopathy • Diabetic Foot Ulcer

Company | Products

SUMITOMO SEIKA
JAPAN

PEO-NF (Polyethylene Oxide)

- Complies to USP

PEO-NF Grade	USP POLYETHYLENE OXIDE	EP MACROGOL	Viscosity Range at 25°C [mPa.s]			DMF
			1.0 % Aq. Solution	2.0 % Aq. Solution	5.0 % Aq. Solution	
PEO-20NF	70,00,000	70,00,000	7,500 - 10,000	—	—	Registered
PEO-18NF	50,00,000	50,00,000	5,500 - 7,500	—	—	Registered
PEO-15NF	40,00,000	40,00,000	1,650 - 5,500	—	—	Registered
PEO-8NF*	20,00,000	20,00,000	—	2,000 – 4,000	—	Registered
PEO-6NF*	10,00,000	10,00,000	—	4,000 - 8,000	—	Registered
PEO-5NF*	9,00,000	9,00,000	—	—	8,800 - 17,600	Registered
PEO-1NF	2,00,000	2,00,000	—	—	55 - 90	Registered
PEO-1LNF	1,00,000	1,00,000	—	—	30-55	Not Registered

* Developing now

- PEO-NF is used as a material in sustained release tables, including "Osmotic pump type", "Matrix type" and also "Hot melt type".
- Matrix type tablets can be made by direct compression.

SIO Quality, Specialty OILS & FATS
(SIO-ADM, France)

Injectable Grade Oils:

- Refined Soybean Oil – Glycine Soja Oil
- Refined Olive Oil – Olea Europaea Fruit Oil
- Refine Sesame Oil

Oral Grade Oils:

- Hydrogenated Soybean or Cottonseed Oils

Other Oral Grade Vegetable Oils available on request:

- Refined Vegetable Oils (Soybean, Corn, Sunflower, Rapeseed, etc.)

SUHEUNG CAPSULE
KOREA & VIETNAM

Empty Hard Gelatin Capsules (EMBO CAPS® Patented)

US-FDA approved
US-DMF, JP-DMF approved

- Embo Caps® VG (HPMC Capsules)
- Embo Caps® Speciality Capsules USP/EP/JP
- Embo Caps® Fish (Fish Gelatin Capsules)
- Embo Caps® PEG (Polyethelene glycol)
- Embo Caps® AP (Acid Protective Capsules)
- Embo Caps® LP+ (Liquid & Fine Powder Filling)
- Embo Caps® LPR (Dry Powder Inhalation)
- Embo Caps® SLS Free

Soft Gelatin Capsules toll manufacturing in Korea (US FDA approved)

Vegetarian Soft Capsules toll manufacturing in Korea

Traded products (APIs)

Products

Potassium Clavulanate Diluted IP
a) Potassium Clavulanate with Silicon Dioxide (1:1)
b) Potassium Clavulanate with Microcrystalline Cellulose (1:1)
Acarbose IP
Cyclosporine USP
Teicoplanin EP (Non – Sterile Bulk)
Hydroxyethyl Starch 200/0.5
Vitamin E IP
Tazobactam Sodium (Bulk Sterile)
Tazobactam Sodium & Piperacillin Sodium for Injection (1:8) (Bulk Sterile mixture)
Thioctic Acid EP (Alpha-Lipoic Acid)
Hydroxyethyl Starch EP 130/0.4
Refined Soya-bean Oil IV EP
L-Carnitine-L-Tartarate
Tyloxapol USP
Tagatose

Application guide

SOLID DOSAGE

ADSORBENT/CARRIER

• Anhydrous Dibasic Calcium Phosphate (Fujicalin SG)	Fuji Chemical
• Ion Exchange Resins	Purolite
- Sodium Polystyrene Sulfonate	
- Calcium Polystyrene Sulfonate	
- Cholestyramine	
- Polacrilex	
- Polacrilin Potassium	
• Maltose Monohydrate (Sunmalt-S)	Hayashibara
• Magnesium Aluminometasilicate (Neusilin US2/UFL2/S1/S2)	Fuji Chemical

BINDER

• Gelatin	Geltech
- Soft Capsule : 140~160 Bloom, 190~210 Bloom, 200 Bloom	
- Hard Capsule : 250 Bloom	
• Hydroxy Propyl Cellulose Grades (Nisso HPC -H/M/L/SL/SSL/SFP)	Nisso
• Low Substituted Hydroxy Propyl Cellulose (Joinpure LH 11/ LH 21)	Joinway
• KoVidone™ (PVP K Series - K-17, K-30, K-90 (USP / EP / BP / IP)	BOAI NKY
• PVA - Polyvinyl Alcohol Gohsenol EG -05P/PW	Nippon Gohsei
• PVP VA (Kovidone VA 64)	BOAI NKY
• Pullulan	Hayashibara
• Trehalose 100PH	Hayashibara
• DiCOM-S® STAR (Single modified directly compressible starch) complying corn starch USP-NF	Gangwal

COATING/FILM FORMING AGENTS

• Sepifilm™ LP Ready Mix Film Coating System for moisture barrier	Seppic
• Sepifilm™ SC Ready Mix sugar coating system	Seppic
• Sepifilm™ Classic HPMC based film coating system	Seppic
• Sepisperse Film/Sugar Coating Colouring Agent	Seppic
• Poly Vinyl Alcohol (GOHSENOL EG)	Nippon Gohsei
• Pullulan (As a oxygen barrier polymer)	Hayashibara
• Hydroxy Propyl Cellulose Grades (Nisso HPC SSL/ SL/ L)	Nisso
• PVP K-30 (Povidone K-30)	BOAI NKY
• Polymethacrylate Co-polymer (USP-NF/EP/JPE)	Sanyo Chemicals
• CoPovidone - (VA-64)	
• PVP-I (Povidone-Iodine)	

- **Polyquid PA-30** : Methacrylic Acid and Ethyl Acrylate Copolymer Dispersion (1:1)
- **Polyquid PA-100** : Methacrylic Acid and Ethyl Acrylate Copolymer (1:1)
- **Polyquid LA-100** : Methacrylic Acid Copolymer Type A
- **Polyquid SA-100** : Methacrylic Acid Copolymer Type B
- **Polyquid EA-100** : Amino Methacrylate Copolymer
- **Polyquid EM-30** : Ethyl Acrylate Methyl Methacrylate Copolymer Dispersion

RELEASE MODIFIER

• PEO-NF (Polyethylene Oxide)	Sumitomo Seika Chemicals Co., Ltd.
• DiCOM-DC™ SR	Gangwal
- for sustained release formulations	

EMULSIFIERS / CO-EMULSIFIERS

• Montanox™ 20/ 60/ 80	Seppic
• Montane™ 20/ 60/ 80	Seppic
• Simulsol™ M45/ 2599/ M52	Seppic
• Egg Yolk Lecithin powder	Doosan
- DS-PL95E	
- DS-PL95EN	
• Sodium Salt, Oleic Acid Powder	
- DS Sodium Oleate	

ENCAPSULATING AGENTS

• Betadex (Complexol - B™)	Gangwal
• Hydroxypropyl Betadex (Complexol HP®)	Gangwal
• Ion Exchange Resins	Purolite

FILLERS/DILUENTS

• Anhydrous Dibasic Calcium Phosphate (Fujicalin SG)	Fuji Chemical
• DiCOM-DC™ (Coprocessed Excipient)	Gangwal
• F-Melt type C/ M/ F1	Fuji Chemical
• Magnesium Aluminometasilicate (Neusilin US2/UFL2)	Fuji Chemical
• Maltose Monohydrate (Sunmalt-S)	Hayashibara
• Trehalose 100PH	Hayashibara
• ProBlend™	Gangwal
- Silicified Microcrystalline Cellulose USP	
• Starlose™	Gangwal
- Co-processed Maize Starch & Lactose Monohydrate	

GELLING AGENTS

• Gelatin	Geltech
• Hydroxypropyl Cellulose (Nisso HPC M/ H)	Nisso
• Sepineo™ P600	Seppic
• Sepineo™ SE 68	Seppic
• Sepineo™ D.E.R.M	Seppic
• Sepineo™ P.H.D 100	Seppic

ORAL DISSOLVING TABLETS/STRIPS

• F-Melt (Type C/ M/ F1)	Fuji Chemical
• Pullulan	Hayashibara
• PolyKovidone-10/XL (Crosspovidone)	BOAI NKY

SWEETENERS

• Acesulfame K (sweetACE®)	Gangwal
• Sucralose (sucreX®)	Gangwal
• Cutcal™ Neotame	Gangwal
• Tagatose	Cheil Jedang

SOLUBILITY ENHANCERS

• Betadex (Complexol - B™)	Gangwal
• Hydroxypropyl Betadex (Complexol-HP®)	Gangwal
• Magnesium Aluminometasilicate (Neusilin US2/UFL2)	Fuji Chemical
• Montane™ 20/ 60/ 80 (Sorbitan Laurate / Stearate / Oleate)	Seppic
• Montanox™ 20/ 60/ 80 (Polysorbate 20/60/80)	Seppic
• Polysorbate 80 in Dry Form (Sepitrap™ 80)	Seppic
• Polyoxyl 40 Hydrogenated Castor Oil in Dry Form (Sepitrap™ 4000)	Seppic
• Captisol®	Cydex
• Tyloxapol	Amri

SOFT GELATIN CAPSULES

• Gelatin	Geltech
Soft Capsule : 140 ~ 160 Bloom, 190~210 Bloom, 200 Bloom	
Hard Capsule : 250 Bloom	
• Sorbiplast™ (Plasticizer for softgel capsules)	Gangwal
• Soft Gelatin Capsule	Suheung

Granulated DC Excipients Premix

• DiCOM-DC™ PL	Gangwal
- for small dose API, large dose APIs with good compressibility	

• DiCOM-DC™ DT	Gangwal
- for low disintegrating formulations	
• DiCOM-DC™ SP	Gangwal
- for moisture productive and pH sensitive APIs	
• DiCOM-DC™ EF	Gangwal
- for effervescent tablets	
• ProBlend™	Gangwal
- Silicified Microcrystalline Cellulose USP	
• Starlose™	Gangwal
- Co-processed Maize Starch & Lactose Monohydrate	

INJECTABLE / INTRAVENOUS

APIs	
• Hydroxy Ethyl Starch	Wuhan Hustlife
• L-Ornithine L-Aspartate	Flamma
• Refined Soyabean Oil IV	SIO
CRYOPROTECTANT	
• Trehalose SG	Hayashibara
CARRIERS	
• Human Transferrin	Kamada
• Biodegradable Polymers - PLAs/PLGAs	DURECT Corporation
FAT EMULSION IV	
• Purified Egg yolk Lecithin (Emulsifier)	Doosan
• Refined Soya bean Oil IV	SIO
• Sodium Oleate (Co-emulsifier)	Doosan
IMPLANTS	
• Biodegradable Polymers - PLAs/PLGAs	DURECT Corporation
• Thermoplastic Urethane	Lubrizol

MICROSPHERES

•Biodegradable Polymers - PLAs/PLGAs	DURECT Corporation
•Poly Vinyl Alcohol (GOHSENOL EG)	Nippon Gohsei

MODIFIED RELEASE

• Biodegradable Polymers- PLAs/PLGAs	DURECT Corporation
• Thermoplastic polyurethane (TPU)	Lubrizol Advance Materials

SOLUBILIZERS

• Hydroxypropyl Betadex (Complexol - HP®)	Gangwal
• Sulfo Butyl Ether Beta Cyclo Dextrin (Captisol®)	Cydex

Sustained Release

• Glucose Star Polymer (Biodegradable)	DURECT Corporation
• Biodegradable Polymers - PLAs/PLGAs	DURECT Corporation

APIs

Amino Acids

• L- Carnitine L-Tartrate	Gangwal
• L- Glutamine	China
• L- Taurine	Qianjiang Yong
• L-Arginine	Ajinomoto

Antibiotics

• Clavulanate Potassium with Silicon Dioxide	CKD BIO Corporation
• Clavulanate Potassium with Microcrystalline	CKD BIO Corporation
• Tazobactum Sodium Sterile	Qilu Pharmaceuticals
• Tazobactum Piperacillin for injection (1:8) (Bulk sterile mixture)	Qilu Pharmaceuticals
• Teicoplanin EP (Non Sterile Bulk)	CKD BIO Corporation

Anti - Asthamatic

• Formoterol Fumarate Dihydrate	Gangwal
• Salmeterol Xinafoate	Gangwal

Anti - Emetic

• Cyclizine Hcl	Gangwal

Anti-Glaucoma

• Timolol Maleate	Gangwal
• Aripiprazole	Gangwal

Astringent	
• Distilled Witch Hazel	American Distilling
Carriers/ API carriers	
• Refined Soyabean Oil	SIO
• Sodium Polystyrene Sulfonate (Resin)	Purolite
Cholesterol Reduction	
• Benecol	Raisio
• Cholestyramine (Resin)	Purolite
CNS Stimulant	
• Modafinil	Gangwal
Diuretic	
• Hydrochlorothiazide	Flamma
Gastro/ Laxative	
• Lactulose	Biofac / Danipharm
Hair Growth	
• Aminexil	Flamma
• Minoxidil	Flamma
Hepatic	
• L- Ornithine L - Aspartate	Flamma
Mineral Supplement	
• Magnesium Aspartate	Flamma
Omega - 3 Fatty Acids	
• DHA 85% (Docosahexaenoic acid)	KD Pharma
• EPA 90% (Eicosapentaenoic acid)	KD Pharma
Pain Relief/ Anti - Inflammatory	
• Ketoprofen Lysinate	Flamma

Plasma Volume Expander

• Hydroxy Ethyl Starch -200/0.5	Wuhan Hustlife
• Hydroxyl Ethyl Starch EP 130/ 0.4	Lianyungang Runzhong Pharmaceutical co. ltd

Platelet Aggregation

• Thrombin - Enzyme	Biofac/Danipharm

Vasodilator

• Isoxsuprine Hcl	Gangwal

Anti-Oxidant

• Thiotic Acid EP (Alpha Lipoic Acid)	Alzchem AG

INTERMEDIATES

Itraconazole

4-[4-[4-(4-Hydroxy phenyl) piperazinyl]phenyl]-1-(methyl propyl)-1,2,4-triazole-5-one

(Itraconazole hydroxy)

Cis-[[2-(2,4-Dichloro phenyl)-2-(1H-1,2,4-triazol-1-yl-methyl)-1,3-dioxolan-4-yl] methyl]

methane sulfonate

1-(4-Methoxyphenyl) Piperazine

Isoxsuprine Hydrochloride

NAK HCL:-

2-(1-Phenoxy Propan-2-ylamino)-1-(4-benzyloxyl) phenyl propan-1-ol Hydrochloride

Timolol Maleate

Timolol Maleate Stage-I:-

(S)-1-[(1,1-dimethylethyl) amino] -3-[[4-(4-morpholinyl)-1,2,5-thiadiazol-3-yl]oxy]-2-propanol

NUTRACEUTICALS

Milk Derivatives	
• Caseinate Calcium	Tatua
• Caseinate Sodium	Tatua
• Casein Protein Hydrolysed	-
• Whey Protein Hydrolysed	Glanbia Nutritional
• Lactoferrin	Tatua
• Lactoperoxidase	Tatua
• Glycomacropeptide	-

Sweeteners / Polyols	
• Erythritol	Cargill
• Maltitol	Cargill
• Xylitol	Danisco / Dupont
• Isomalt	-
• Mannitol	Cargill
• Sucralose	Gangwal
• Neotame	Gangwal
• Acesulfame K	Gangwal
• Fructose	Tate & Lyle
• Stevia	Tate & Lyle

Amino Acid & Derivatives	
• Adenosine-5'-Triphosphate (ATP)	-
• Citicoline Monosodium Salt	-
• L-Alanine	-
• L-Arginine	Aginomoto / Kyowa Hakko
• L-Glutamine	-
• L-Glutathione Oxidized (Aqua Gluta™)	-
• L-Glutathione Reduced (Setria®)	-
• N-Acetyl L-Cysteine	-
• Pantethine (Pantesin®)	-
• L-Taurine	Qianjiang Yongan Pharmaceutical

Brain Nutrition	
• (Non-GMO) Soy Phosphatidylserine	Doosan
- DS-PS20P / 40P / 50P, PS50PW	
- DS-PS20F	
• Egg Yolk Peptide	Doosan
- DS-SOS	

NUTRACEUTICALS

Supplements	
• Algae DHA powder & oil	Cabio
• Beta Carotene (Natural & Synthetic)	Bioextract
• Krill Oil	-
• Omega 3 Oil	-
• Lycopene	Divis
• Vitamin E Natural	-
• Natural Astaxanthin	Astareal
• Oat Fibre	JRS
• Regenasure™ Glucosamine Hydrochloride Powder (Veg.)	-
• Resveratrol	Evolva
• Polydextrose	-
• Benecol	-
• TECA™ Titrated Extract of Centella Asiatica	Serdex, a subsidiary of SEPPIC

Products of S. A. Pharmachem
• Vitamins | Minerals | Micronutrient Premix - Vcart
• Probiotics & Blends
• Enzymes & Blends
• Soy Lecithin
• Calcium (Algae) Aquamin
• Sweetener Blends
• Oat Beta Glucan
• Mineral Pidolates
• Ceramosides
• Superoxide Dismutase
• MCT- Medium Chain Triglycerides
• RNA Salts & Nucleotides

PTAC 3-Chloro-2-hydroxypropyltri methylammonium chloride

LOTTE FINE CHEMICAL

Key material for paper industry

C6H15Cl2NO
CAS No. 3327-22-8

PTAC is used as a cationic reagent to modify natural and synthetic polymer. PTAC is produced from the reaction of trimethylamine and epichlorohydrin. LOTTE FINE CHEMICAL is one of top three global makers with capacity of 30,000MT in Ulsan, Korea, supplying high quality products to global customers.

Applications

- **Papermaking Industry :**

As an important auxiliary agent, PTAC (Cationic reagent) is widely applied to starch, cellulose, and chitosan chemical modification. The cationic starch, which is etherification modified from raw starch, can be used as the paper's additives for surface sizing agent, retention and filtration aid, enhancer and soon.

- **Textile Industry :**

The cotton fiber, which is modified by PTAC (Cationic reagent) ,Can enhance the dye's bonding. And cationic starch can be used as warp sizing agent.

- **Water Treatment Industry :**

The electronegative suspended solids of water react with PTAC (Cationic reagent) to get cationic polymer. Asflocculant, it can be widely used in the purification of water.

- **Daily Chemical Industry :**

The cationic guar gum and other chemicals, which are formed by PTAC (Cationic reagent) modification, are all important daily chemicals.

Packaging

230kg PE drum

Lubrizol

Catheters and IVs

Products

Carbothane™
Aliphatic and aromatic polycarbonate TPU available in a variety of durometer, color and radiopacifier formulations. Carbothane is easy to process, offers excellent oxidative stability and provides long-term stability.

Isoplast®
Aromatic TPU available in impact-modified, clear, pre-colored and glass-filled grades. Isoplast is designed for rigid polymer requirements.

Pellethane®
Aromatic polyether and polyester TPUs available in natural color and in a wide range of drometers. Molding and extrusion grades available.

Tecoflex™
Aliphatic polyether TPU available in a variety of durometer, color and radiopacifier formulations. Tecoflex polymers are easy to process and resist yellowing by aging.

Tecophilic™
Aliphatic polyether TPU formulated to absorb from 20% to 1,000% by weight of the dry resin, while maintaining much of its properties. Solution, hydrogel, or extrusion grades available.

Tecothane™
Aromatic polyether and polyester TPU available down to variety of durometer, color and radiopacifier formulations. Tecothane resins offer improved solvent resistance and strength.

Tecothane™ Flame Retardant
Aromatic polyether and polyester TPU suitable for both injection molding and extrusion. Material is flame retardant and provides a matte or shiny finish. Available in a range of durometers and custom colors.

Tecothane™ Soft
Aromatic polyester hydrocarbon-based TPU currently available down to a natural 62A Shore Hardness, and are up to 75% bio-sourced. Tecothane Soft resins deliver unique surface characteristics, unique physical properties and lower specific gravity.

Applications

Our technologies are used in numerous applications, including:

Cardiac Assist	Neurovascular	Urology
Gastroenterology	Orthodontics	Vascular Access
IV Therapy	Orthopedics	Wound Care
Many Others		

We have more than 30 years of expertise producing polymers that create trusted catheters and IVs with:

- In-body softening capabilities for enhanced patient comfort
- Increased strength
- Biocompatibility
- Functionality that includes: antithrombotic, antimicrobial and antibacterial properties
- Chemical resistance for broad use

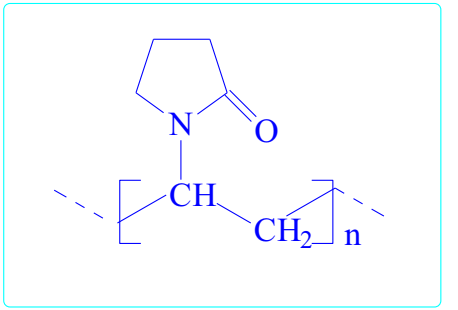
PVPP stabilizer for beer

What is PolyFilter®

PolyFilter® is the brand name of PVPP which produced by Boai NKY pharmaceuticals Ltd., and acted as Wine, Beer&other beverage's stabilizer. It's cross-linked homopolymer of 1-vingylpyrrolidine-2-one, and well know as polyvinylpyrrolidone and PVPP. It's odorless or with characteristic odor, insoluble in water, alkali, acid and all other common solvents, hygroscopic, swells rapidly in water but without forming a gel.

PolyFilter® PVPP

NKY Polymers for food industry



Application: PolyFilter® used as stabilizer in beer, wine, tea beverage, juice & other beverage industry.

Chemical name Cross-linked homopolymer of polyvinylpyrrolidone, PVPP

INCI/CTFA Insoluble PVP

CAS No. 25249-54-1; 9003-39-8

Appearence white or creamy white granular free flowing powder

Specifications

Product	PolyFilter® Single-use				PolyFilter® Recycling
Specifications	10	V	VT	F	R
Appearance	White to off - white,hygroscopic, free flowing powder				
Identification(FCCV method)	No blue color appears				
Water-soluble substances % max	0.5				
Acid /ethanol soluble substances % max	1.0				
pH(1%water suspension)	5.0-8.0				
Moisture % max	5.0				
Residue on Ignition % max	0.4				
Assay of nitrogen %	11.0-12.8				
Vinylpyrrolidone ppm max	10				
Lead ppm max	2				
Arsenic ppm max	2				
Heavy metal ppm max	10				
Peroxides (Expressed as H_2O_2) ppm max	400				

Adsorptive capacity % min	45	45	40	40	40
Particle Size >80% μm	5-50	50-50	5-200	100-300	80-180
Typical Average Particle Size μm	25	30	140	180	90
Swell Volume ml/g max					6

PVPP stabilizer for beer

PolyFilter® PVPP

NKY Polymers for food industry

Introduction

Even through the beer are filtrated, stored some time later, the turbidity & sedimentation will be formed also, then the shelf-life will not be long. This phenomenon mainly caused by the polyphenols in the beer, such polyphenols have a particularly high haze-forming potential which will be caused the beer cloudy. PolyFilter can avoid premature turbidity by the removal of polyphenols brings clear appearance & advantages in taste, also prolongs the shelf-life.

Mechanism of Haze Development

Fresh beer contains simple flavanoid polyphenols and kind of proteins, such polyphenols and proteins are easy to form weak hydrogen bonds, thereby form some compounds, and these compounds are invisible due to their low molecular weight.. 3 to 6 weeks later, the flavanoids oxidized and polymerized, and every 3-4 bonds formed one new unit substance-called “tannoids”. Tannoids can produce visible colloidal particles by naked eyes. The effect of hydrogen bonds which connect the polyphenols together are weak, when the temperature rise they are broken, then the turbidity disappeared. We call this “chill Haze”.

After a longer storage period, ionic and covalent bonds formed between the flavanoids and the proteins. They are stronger that can not be broken by an increasing temperature, so permanent haze would develop in beer.

Advantages of PolyFilter®

- High effective at relative low dosage rates and with short contact times
- No residue
- Consistently achieve and make the maximum for beer shelf-life and constant quality.
- Colloidal stability of the beer even under extreme climatic condition
- No impact on foam, flavor or other beer quality parameters
- Easy to use
- Environmental friendly

GLAS™
Gangwal Laboratory Analytical Services

Analytical Services

Products & Services

- Analytical Laboratory / Industrial Testing / Laboratory Testing
  - Testing of drug Substances & formulations
  - Testing of Ayurvedic & Homeopathic
  - Testing of water
  - Testing of detergents, chemicals & oils
  - Testing of food ingredients, packaged food
  - Pesticide residue testing

Chemical and Instrumental Test

- Leachable & Extractable
- Method Development/Method Validation/Stability testing
- Identification by UV/IR
- Assay by UV
- Related substances/Identification by HPLC/GC
- Assay by HPLC (Isocratic/Gradient)
- Assay by GC (Isothermal/Temperature Gradient)
- Content uniformity by GC
- Content uniformity by HPLC
- Dissolution tests
- Dissolution profiles
- Residual impurities (Solvents)
- Residual impurities (Metals)
- Digital specific optical rotation
- Viscosity

Support for analysis & interpretation of data on instruments like

- Solidstate NMR
  - ^{1}H NMR
  - ^{13}C NMR
- GCMS
- LCMS
- Scanning Electron Microscope
- Tandem Electron Microscope
- Polarized Light Microscope
- Total particulate counter
- Particle size analyser
- Zetasizer
- Hot Stage Microscopy
- Specific Surface Area
- Atomic Absorption Spectroscopy
- Flame Photometer
- Atomic Emission Spectrometer
- ICP OES
- ICP MS
- XRF
- XRD/solid state XRD
- Capillary Electrophoresis
- DSC
- TGA
- DTA
- Osmolarity
- COD/BOD/Hardness
- Vapour Sorption Analyser
- Ion Chromatography
- C.H.N.S.

GLAS™
Gangwal Laboratory Analytical Services

Regulatory Services

We offer hands-on regulatory affairs and quality assurance services, outsourcing, and consultation services for Pharmaceutical Industry

Introduction

- In India, we have specific expertise in manufacturing APIs, excipients and natural health products
- We are expert in distribution of pharmaceutical APIs, excipients, natural health products selling or planning to sell in India

Quality Assurance

- To set up basic QMS systems
- Set training and quality assurance support in line with current QMS requirements
- Develop Quality plans for document control, validation, complaint handling procedure, handling recalls and returns

Document Management

- Creation and management of quality assurance documents
- Detailed specification development
- Preparation of regulatory documents
- Develop a robust and workable document control system

GMP Audits and System Development

- GMP and GLP - GAP assessment
- GMP audits for APIs, excipients, primary packing material, laboratory services and devices
- Suppliers and contractors audits
- Risk Assessments

GMP Project Management

- Quality by design concept layout preparation and review for API and formulation facilities as per current GMP requirements
- Define work environment classification and pressure differential concepts
- Design water treatment concept
- Preparation of Validation documents for facility and qualification for equipment
- Design development for the laboratories, utilities, exhaust systems, fume hoods, HVAC, electricals, fire protection, explosion protection, safety systems

Personal Care

Actives

- Anti-acne
- Anti-aging
- Skin whitening agents
- Moisturizing & Soothing
- Hygiene wash
- Astringent
- Anti Pollution
- Probiotics

Excipients

- Emulsifiers
- Emollients
- Polymers
- Surfactants (Mild Surfactants)
- Oil Gelling Agents
- Natural Clays
- Sunscreen Agents

Gellets-C®

To provide :

- Aesthetic visual effect
- Exfoliating, scrubbing and gentle deep cleansing
- Delivery of cosmetic actives

Gangwal®

Bringing Life to Formulations

Gangwal Chemicals Pvt. Ltd.

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