100 IU/ml

Insulin Glargine Injection I.P. 100 IU/ml (r-DNA Origin)

Cartridges

For (SC) use only

1. Generic Name Insulin Glargine Injection I.P. 100 IU/mL (r-DNA origin) 2. Qualitative and quantitative composition

visible particles.

Refrigerate unused (unopened) Glaritus cartridges.
Do not administer intravenously or via an insulin pump.
Do not administer intravenously or via an insulin pump.
Do not diffuer or mix Glaritus with any other insulin or solution.
The cartridges to be used in pen device are for single patient use only [see Special warnings and precautions for use (4.4)].
General Dosing Instructions
Individualize and adjust the dosage of Glaritus based on the individual's metabolic needs, blood glucose monitoring result

• The carriages to be used in perceive an extra single purchase of carriages provided in perceive and adjust the dosage of Glaritus based on the individual's metabolic needs, blood glucose monitoring results and glycemic control goal. Individualize and adjust the dosage of Glaritus based on the individual's metabolic needs, blood glucose monitoring results and glycemic control goal. Dosage adjustments may be needed with changes in physical activity, changes in meal patterns (i.e., macronutrient content or timing of food intake), during acute illness, or changes in renal or hepatic function. Dosage adjustments should only be made under medical supervision with appropriate glucose monitoring tese Special warnings and precautions for use (4.4)].

Initiation of Glaritus Therapy

monitoring [see Special warnings and precautions for use (4.4)]. Initiation of Glaritus Therapy Type 1 Diabetes

Initiation of Glaritus Therapy Type 1 Diabetes

In patients with type 1 diabetes, Glaritus must be used concomitantly with short-acting insulin. The recommended starting dose of Glaritus in patients with type 1 diabetes should be approximately one-third of the total daily insulin requirements. Short-acting, premeal insulin should be used to satisfy the remainder of the daily insulin requirements.

Type 2 Diabetes

Type 2 Diabetes

Adaly, One may need to adjust the amount and timing of short-or rapid-acting insulins and dosages of any oral anti-diabetic drugs.

Changing 1o Glaritus from other Insulin Therapies

If changing patients from once daily insulin glargine 300 Units/mt. to once daily Glaritus, the recommended initial Glaritus dose is 80% of the insulin glargine 300 Units/mt. dose that is being discontinued. This dose reduction will lower the likelihood of hypoglocymia.

If changing from a treatment regimen with an intermediate - or long-acting insulin to a regimen with Glaritus, and the dose of the basal insulin may be required and the amount and timing of the shorter-acting insulins and doses of any oral antidiabetic drugs may be needed to be adjusted.

If changing patients from once-daily NPH insulin to once-daily Glaritus, the recommended initial Glaritus dose is 80% of the total NPH dose that is being discontinued.

If changing patients from twice-daily NPH insulin to once-daily Glaritus, the recommended initial Glaritus dose is 80% of the total NPH dose that is being discontinued.

4.3 Contraindications
Glaritus is contraindicated in the following condition
During episodes of hypoglycemia.

Glaritus is contraindicated in the following conditions:

During episodes of hypoglycemia.

In patients with hypersensitivity to Glaritus or one of its excipients.

4.4 Special warnings and precautions for use
Never Share A GLARITUS Cartridge or Needle Between patients - GLARITUS cartridges must never be shared between patients, even if the needle is changed.
Patients using GLARITUS must never reuse or share needles with another person. Sharing poses a risk for transmission of blood-borne pathogens.
Phyperglycemia Or Hypoglycemia With Changes in Insulin Regimen - Changes in insulin strength, manufacturer, for method of administration may act glycemic control and predispose to hypoglycemia or hyperglycemia. These changes should be made cautiously and only under close medical supervision, and the frequency of blood glucose monitoring should be increased. For patients with type 2 diabetes, dosage adjustments of concomitant oral and anti-diabetic products may be needed.
Phypoglycemia - Hypoglycemia is the most common adverse reaction associated with insulin, including GLARITUS. Severe hypoglycemia can cause seizures, may be life-threatening or cause death. Hypoglycemia can impair concentration ability and reaction time; this may place an individual and others at risk in each individual and change over time in the same individual. Symptomatic awareness of hypoglycemia may be less pronounced in patients with diabete in patients

biodo supply and temperature. Unter factors which may increase the risk of hypoglycemia include cnarges in meal pattern lead, macrounter content or ming of meals, changes in level of physical activity, or changes to co-administered medication. Patients with rend repeate impairment may be at higher mind or many control or many contro

Drugs Atypical antipsychotics (e.g. clanzapine and clozapine), corticosteroids, danazol, diuretics, estrogens, glucagon, isoniazid, niacin, oral contraceptives, phenothiazines, progestogens (e.g. in oral contraceptives), protease inhibitors, somatropin, sympathomimetic agents (e.g. albuterol, epinephrine, terbutaline), and thyroid hormonic cases and increased frequency of glucose monitoring may be required when insulin glargine is co-administered with these drugs. Drugs That May lincrease or Decrease the Blood Glucose Lowering Effect of GLARTUS Drugs That May Blurt Signs and Symptoms of Hypoglycemia, or an activative of the state of Glarge and Symptoms of Hypoglycemia, and which is such as a suc

and NPH.

4.7 Effects on ability to drive and use machines
The patient's ability to concentrate and react may be impaired as a result of hypoglycemia. This may constitute a risk in situations where these abilities are of special importance (e.g., driving a car or operating machinery). Patients should therefore be advised to avoid hypoglycemia during driving. This is particularly significant in patients who have reduced awareness of the warning signs of hypoglycemia or have frequent episodes of hypoglycemia.

4.8 Undesirable effects
The following adverse reactions are discussed elsewhere:

1-hypoglycemia [see Special warnings and precautions for use (4.4)]

1-hyposensitivity and allergic reactions [see Special warnings and precautions for use (4.4)]

1-hyposlaemia [see Special warnings and precautions for use (4.4)]

Peripheral Edema
Some patients taking insulin glargine have experienced sodium retention and edema, particularly if previously poor metabolic control is impiritensified insulin therapy.

Lipodystrophy
Administration of insulin subsultaneously, including insulin glarging, has resulted in lipodystrophy (depression in the skin) or lipodystrophy.

Epocyaryony Administration of insulin subcutaneously, including insulin glargine, has resulted in lipoatrophy (depression in the skin) or lipohypertrophy (enlargement or thickening of tissue) in some patients. Insulin linitation and Intensification of Glucose Control

in the internation of the intern

red with some insulin therapies including insulin glargine and has been attributed to the anabolic effects of insulin and the dec

Immunogenicity

As with all therapeutic proteins, there is potential for immunogenicity. All insulin products can elicit the formation of insulin antibodies. The presence of such insulin antibodies may increase or decrease the ecacy of insulin and may require adjustment of the insulin of such insulin antibodies may increase or decrease the ecacy of insulin and may require adjustment of the insulin dose.

Medication errors have been reported in which other insulins, particularly rapid-acting insulins, have been accidentally administered instead of insulin glargine. To avoid medication errors between GLARITUS and other insulins, patients should be instructed to always verify the insulin label before each injection.

injection.

Other adverse event reported in patients administered with insulin glargine include upper respiratory tract infection, peripheral edema, hypertension, influenza, sinustifs, cataract, bronchitis, arthralgia, pain in extremity, back pain, cough, urinary tract infection, diarrhoea, depression, headache, accidental injury, infection and retinal vascular disorder.

5. Pharmacological properties
5.1 Mechanism of Action
The primary activity of insulin, including insulin glargine, is regulation of glucose metabolism. Insulin and its analogs lower blood glucose by stimulating peripheral glucose uptake, especially by skeletal muscle and fat, and by inhibiting hepatic glucose production. Insulin inhibits lipolysis and proteolysis, and enhances protein synthesis.

enhances protein synthesis.

3.2 Pahramacodynamic properties
The glucose-lowering effect on a molar basis (i.e., when given at the same doses) of intravenous insulin glargine is approximately the same as that for human insulin. Insulin Glargine effers because of its unique structure providing a smooth and peakless profile with a prolonged duration of action of 24 hours (end of observation period) compared to 14.5 hours for NPH human Insulin. The onset of action of insulin Glargine is slower than NPH human Insulin. The duration of action of insulin glargine after abdominal, deletiol, or thigh subcutaneous administration is reportedly similar. The time course of action of insulins, including GLARITUS, may vary between individuals and within the same individual.

Comparative Pharmacodynamics of Glaritus® with Innovator®
Pharmacodynamics of insulin glargine from Glaritus® was compared with that from Innovator in two separate studies — one in healthy volunteers (n=40 in two-way ross-over design) and second in patients of type 1 diabetes mellitus (n = 111 in parallel group design) with successful achievement of bioequivalence of Glaritus® to Innovator as displayed in the tables below.

Table 1. Frannacouynamic companson of Garitus* to limovator in healthy voidificers						
Pharmacodynamic Parameter	Geometric LSM					
	Glaritus [*] (T, N=69)	Innovator (R, N=65)	T/R Ratio	90% CI of T/R		
GIR _{Max} (mg/kg/min, mean)	1.82	1.85	0.98	0.87 to 1.11		
AUC _{GIRO-24h} (h*mg/kg/min, mean)	20.99	21.63	0.97	0.83 to 1.14		
GIR_T _{max} (hours, median)	12.83	12.83	P value 0.74			

codynamic comparison of Glaritus® to Innovator in Type 1 Diabetic patients (After exclusion of outlier values)

Parameter	Geometric LSM			
	Glaritus [®] (T, N=94)	Innovator (R, N=94)	T/R Ratio	90% CI of T/R
AUC _{GIR 0-24} (h*mg/ min, mean)	1310.36	1377.55	95.1	85.3 to 106.1
GIR _{max} (hours, mean)	109.27	112.81	96.9	89.9 to 104.4

5.3 Pharmacokinetic properties
Absorption and Bioaxialability - After subcutaneous injection of Insulin Glargine, the Insulin serum concentrations indicate a slower, more prolonged absorption and a lack of a peak in comparison to NPH human Insulin. Concentrations are thus consistent with the time profile of the pharmacodynamics activity of Insulin Glargine.

Metabolism and Elimination - A reported metabolism study in humans indicates that insulin glargine is partly metabolized at the carboxyl terminus of the Biotain in the subcutaneous depot to form two active metabolites with in vitro activity similar to that of human insulin, M1 (21A-Gly-insulin) and M2 (21A-Gly-des-308-Thr-insulin). Unchanged drug and these degradation products are also present in the circulation.

6. Nonclinical properties
6.1 Animal Toxicology
Single dose toxicity – There were no signs of toxicity in Swiss albino mice and Sprague Dawley rats treated at the dose level of 24IU/kg body weight of subcutaneous injections of Insulin Glargine.

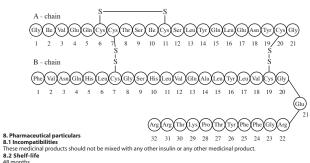
Repeated dose toxicity – There were no signs of toxicity in Swiss albino mice and Sprague Dawley rats during a period of 28 days with subcutaneous injections of Insulin Glargine.

insulin Glargine.

mal Toxicity - There were no signs of dermal irritation or skin sensitization in New Zealand white rabbits and Duncan Hartley guinea pigs with topical
ting of Insulin Glargine.

rcinogenicity and impairment of fertility-Carcinogenicity and fertility studies were not performed in animals.

7. Description
GLARITUS (insulin glargine injection) is a sterile solution of insulin glargine for subcutaneous use. Insulin glargine is a recombinant human insulin analog that is a long-acting, parenteral blood-glucose-lowering agent. Insulin glargine has low aqueous solubility at neutral pH. At pH 4 insulin glargine is completely soluble. After injection into the subcutaneous tissue, the acidic solution is neutralized, leading to formation of microprecipitates from which small amounts of insulin glargine are slowly released, resulting in a relatively constant concentration/time pro le over 24 hours with op ronounced peak. This profile allows once daily dosing as basal insulin. GLARITUS is produced by recombinant DNA technology utilizing a non-pathogenic laboratory strain of Escherichia coil as the production organism. Insulin glargine differs from human insulin in that the amino acid asparagine at position A21 is replaced by glycine and two arginines are added to the C-terminus of the B-chain, Chemically, insulin glargine differs of the C-terminus of the B-chain, Chemically, insulin glargine at 17°CAy-30°b-L-Arg-human insulin and has the empirical formula C_{3.07}H_{eas}N_{7.7}O_{7.9}S₉ and a molecular weight of 6063. Insulin glargine is 17°CAy-30°b-L-Arg-human insulin and has the empirical formula C_{3.07}H_{eas}N_{7.7}O_{7.9}S₉ and a molecular weight of 6063.



8.2 Sneet-fire
4.8 months:
8.3 Magning information
9.2 Storage in information
1.5 Storage and handling instructions
1.1 Insulin Glargine injection Cartridge PAC-4.8°C). Do not allow it to freeze.
1.2 Do not put in react to the freeze compartment of your refrigerator, or next to a freezer pack.
1.1 Insulin Glargine injection Cartridge which is not in use should be stored in a refrigerator (2°C - 8°C). Do not allow it to freeze.
1.2 Do not put in react to the freezer compartment of your refrigerator, or next to a freezer pack.
1.2 When in use, Cartridge may be used in mypen® 2 or may be carried at room temperature up to 30°C for up to 4 weeks.
1.2 Do not expose to excessive heat or direct sunlight.
1.3 Insulin Glargine injection Cartridge must be kept out of freach of children.
1.4 Ir frefrigeration is impossible, the cartridge of Insulin Glargine in use can be kept unrefrigerated for up to 28 days away from direct heat and light, as long as the temperature is not greater than 25°C. Unrefrigerated cartridges must be discarded after 28 days.
1.1 Insulin Glargine must only be used if the solution is clear and colourless with ho particles visible.
1.1 Insulin Glargine must only be used if the solution is clear and colourless with ho particles visible.
1.1 Insulin Glargine must only be used if the solution is clear and colourless with ho particles visible.
1.3 Insulin Glargine must only be used if the solution is clear and colourless with ho particles visible.

Insulin Glargine must not be mixed with any other languist or paid to allow it to arrive at room temperature. Cold insulin is more painful to inject.

If your Cartridge is in cool storage, take it out 1 to 2 hours before you inject to allow it to arrive at room temperature. Cold insulin is more painful to inject.

Insulin Glargine must not be mixed with any other Insulin nor be diluted. Mixing or diluting can change its time/action profile and mixing can cause

9. Patient Counselling Information
Important Risks and Adverse drug reactions
Newer Share a Galritus cartridge or Syringe between patients
Advise patients using Glaritus cartridge, not to share needles, syringes, or DispoPen with another person. Sharing poses a risk for transmission of blood-borne

Advise patients using Glaritus cartridge, not to share needles, syringes, or DispoPen with another person. Sharing poses a risk for transmission of blood-borne pathogens.

Hypoglycemia
Inform patients that hypoglycemia is the most common adverse reaction with insulin. Instruct patients on self-management procedures including glucose monitoring, proper injection technique, and management of hypoglycemia and hyperglycemia, especially at initiation of Glaritus therapy. Instruct patients on handling of special situations such as ilmess, stress, or emotional disturbances, an inadequate or skipped insulin dose, inadvertent administration of an Instruct patients on the management of hypoglycemia, Advise patients to regularly carry some sugar lumps, sweets, biscuits, or sugary fruit juice to mitigate symptoms of hypoglycemia, inform patients that their ability to concentrate and react may be impaired as a result of hypoglycemia, Advise patients who have frequent hypoglycemia or reduced or absent warning signs of hypoglycemia to use caution when driving or operating machinery. [see Special warnings and precautions for use(4.4)].

Hypoglycemia due to Medication Errors

Instruct patients that hypoglycemia may occur as a result of an excess of insulin relative to food intake, energy expenditure, or both. Instruct patients to

Instruct patients that hypoglycemia may occur as a result of an excess of insulin relative to food intake, energy expenditure, or both. Instruct adverse the insulin label before each injection to avoid mix-ups between insulin products.

Advise patients that hypoglycemia may occur as a result of an excess of insulin relative to food intake, energy expenditure, or both. Instruct adverse patients that hypoglycemia development of the presentivity reactions can occur and the patients that hypoglycemia development of the presentivity reactions can occur and the presentivity occurs are also account to the presentive can occur and the present vise patients that hypersensitivity reactions can occur with Glaritus. Inform patients on the symptoms of hypersensitivity reactions and advice the patient discontinue Glaritus and to seek medical attention if they occur [see Undesirable effects (4.8)].

to discontinue Glaritus and to seek meurical assertions.

We sin Special Population

Pregnant females

Advise pregnant patients that insulin requirements usually fall during the first trimester and increase during second and third trimesters of pregnancy. Careful monitoring is required throughout pregnancy. During the perinatal period, careful monitoring of infants born to mothers with diabetes is warranted. Instruct the female patients to tell their physicians if they intend to become, or if they become pregnant while taking GLARITUS.

Advise the patients that dosage adjustment of insulin may be needed and these patients are at increased risk of hypoglycemia thus requiring frequent blood glucose monitoring.

Administration Instructions
Instruct the patient to never use Glaritus cartridge if it is damaged or if you are not sure that it is working properly. Advise the patients on proper and safe disposal of the needle [see Instructions for use].

Stroage and Handling
Instruct the patient that Glaritus cartridge which is not in use, should be stored in a refrigerator (2°C to 8°C) and should never be kept in the freezer compartment.

tient that when in use, Glaritus cartridge may be carried at room temperature up to 30°C for up to 4 weeks.

Manufactured in India by **WOCKHARDT LIMITED** Biotech Park, H-14/2 MIDC, Waluj, Aurangabad 431136 Maharashtra State

Front Back

ACTUAL SIZE 110 X 320 MM