

Bridging Businesses together

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# **Product Information Sheet**

# STANDARD SPECIFICATION OF GRANULAR UREA N46%

### **Guaranteed Specification – Granular**

Urea Assay (wt %)98.0 minMass portion of nitrogen (N) on a dry basis, %min46.2Mass portion of Biuret, %, max0.71Ferrum %0.0007Apparent Density (Kg/m³)770-809 Kg/m³Free Ammonia160 PXT PPM maximumSulphates %0.0079Alkalinity %0.022Arsenic %10ppmCadmium3ppmMercury0%Selenium0.4ppmChromium0.4ppmChromium0.85-3.35 mm not less than 90%Physical StateSolid at 20 °C, 101 KPA White GranulesPhysical StateSolid at 20 °C, 101 KPA White GranulesSpecific Gravity-1.335t/mMolecular Weight60.065Critical/relative Humidity (30 °C)73%Solubility in water at 20 °C100gm/100ml of waterAnti-Caking AgentFree Floating Treated Against Anti-Caking TreatmentAdditiveNonePH (10 wt% solution)7.5-10.0 UnitsMoisture (determined by Fischer method), % max:0.5% max by method of dryingDimensionLess than 1 mm: AbsenceMelting Point132 °CColorStandard White or Pure WhiteQualityFree Flowing, Non Cluted, Free From Harmful SubstancesSalinity Index75.4	COMPOSITION	SPECIFICATION
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Ferrum %0.0007Apparent Density (Kg/m³)770–809 Kg/m³Free Ammonia160 PXT PPM maximumSulphates %0.0079Alkalinity %0.022Arsenic %10ppmCadmium3ppmMercury0%Selenium0.4ppmChromium430ppmInsoluble (ppm)20Granulation0.85–3.35 mm not less than 90%Physical StateSolid at 20 °C, 101 KPA White GranulesPhysical StateSolid at 20 °C, 101 KPA White GranulesPhysical PresentationWhite GranularSpeific Gravity-1.335t/mMolecular Weight60.065Critical/relative Humidity (30 °C)73%Solubility in water at 20 °C100gm/100ml of waterAnti-Caking AgentFree Floating Treated Against Anti-Caking TreatmentAdditiveNonePH (10 wt% solution)7.5–10.0 UnitsMoisture (determined by Fischer method), % max:0.5% max by method of dryingDimensionLess than 1 mm: AbsenceMelting Point132 °CColorStandard White or Pure WhiteQualityFree Flowing, Non Clotted, Free From HarmfulSubstancesSubstances	Mass portion of nitrogen (N) on a dry basis, %min	46.2
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Free Ammonia160 PXT PPM maximumSulphates %0.0079Alkalinity %0.022Arsenic %10ppmCadmium3ppmMercury0%Selenium0.4ppmChromium430ppmInsoluble (ppm)20Granulation0.85–3.35 mm not less than 90%Physical StateSolid at 20 °C, 101 KPA White GranulesPhysical StateSolid at 20 °C, 101 KPA White GranulesSpecific Gravity-1.335t/mMolecular Weight60.065Critical/relative Humidity (30 °C)73%Solubility in water at 20 °C100gm/100ml of waterAnti-Caking AgentFree Floating Treated Against Anti-Caking TreatmentAdditiveNonePH (10 wt% solution)7.5–10.0 UnitsMoisture (determined by Fischer method), % max:0.5% max by method of dryingDimensionLess than 1 mm: AbsenceMelting Point132 °CColorStandard White or Pure WhiteQualityFree Flowing, Non Clotted, Free From Harmful Substances	Ferrum %	0.0007
Sulphates %0.0079Alkalinity %0.022Arsenic %10ppmCadmium3ppmMercury0%Sclenium0.4ppmChromium430ppmInsoluble (ppm)20Granulation0.85–3.35 mm not less than 90%Physical StateSolid at 20 °C, 101 KPA White GranulesPhysical PresentationWhite GranularSpecific Gravity- 1.335t/mMolecular Weight60.065Critical/relative Humidity (30 °C)73%Solubility in water at 20 °C100gm/100ml of waterAnti-Caking AgentFree Floating Treated Against Anti-Caking TreatmentAdditiveNonePH (10 wt% solution)7.5–10.0 UnitsMoisture (determined by Fischer method), % max:0.5% max by method of dryingDimensionLess than 1 mm: AbsenceMelting Point132 °CColorStandard White or Pure WhiteQualityFree Flowing, Non Clotted, Free From Harmful Substances	Apparent Density (Kg/m <sup>3</sup> )	770–809 Kg/m <sup>3</sup>
Alkalinity %0.022Arsenic %10ppmCadmium3ppmMercury0%Sclenium0.4ppmChromium430ppmInsoluble (ppm)20Granulation0.85–3.35 mm not less than 90%Physical StateSolid at 20 °C, 101 KPA White GranulesPhysical PresentationWhite GranularSpecific Gravity-1.335t/mMolecular Weight60.065Critical/relative Humidity (30 °C)73%Solubility in water at 20 °C100gm/100ml of waterAnti-Caking AgentFree Floating Treated Against Anti-Caking TreatmentAdditiveNonePH (10 wt% solution)7.5–10.0 UnitsMoisture (determined by Fischer method), % max:0.5% max by method of dryingDimensionLess than 1 mm: AbsenceMelting Point132 °CColorStandard White or Pure WhiteQualityFree Flowing, Non Clotted, Free From Harmful Substances	Free Ammonia	160 PXT PPM maximum
Arsenic %10ppmCadmium3ppmMercury0%Selenium0.4ppmChromium430ppmInsoluble (ppm)20Granulation0.85–3.35 mm not less than 90%Physical StateSolid at 20 °C, 101 KPA White GranulesPhysical PresentationWhite GranularSpecific Gravity-1.335t/mMolecular Weight60.065Critical/relative Humidity (30 °C)73%Solubility in water at 20 °C100gm/100ml of waterAnti-Caking AgentFree Floating Treated Against Anti-Caking TreatmentAdditiveNonePH (10 wt% solution)7.5–10.0 UnitsMoisture (determined by Fischer method), % max:0.5% max by method of dryingDimensionLess than 1 mm: AbsenceMelting Point132 °CColorStandard White or Pure WhiteQualityFree Flowing, Non Clotted, Free From Harmful Substances	Sulphates %	0.0079
Cadmium3ppmMercury0%Selenium0.4ppmChromium430ppmInsoluble (ppm)20Granulation0.85–3.35 mm not less than 90%Physical StateSolid at 20 °C, 101 KPA White GranulesPhysical PresentationWhite GranularSpecific Gravity-1.335t/mMolecular Weight60.065Critical/relative Humidity (30 °C)73%Solubility in water at 20 °C100gm/100ml of waterAnti-Caking AgentFree Floating Treated Against Anti-Caking TreatmentAdditiveNonePH (10 wt% solution)7.5–10.0 UnitsMoisture (determined by Fischer method), % max:0.5% max by method of dryingDimensionLess than 1 mm: AbsenceMelting Point132 °CColorStandard White or Pure WhiteQualityFree Flowing, Non Clotted, Free From Harmful Substances	Alkalinity %	0.022
Mercury0%Selenium0.4ppmChromium430ppmInsoluble (ppm)20Granulation0.85–3.35 mm not less than 90%Physical StateSolid at 20 °C, 101 KPA White GranulesPhysical PresentationWhite GranularSpecific Gravity-1.335t/mMolecular Weight60.065Critical/relative Humidity (30 °C)73%Solubility in water at 20 °C100gm/100ml of waterAnti-Caking AgentFree Floating Treated Against Anti-Caking TreatmentAdditiveNonePH (10 wt% solution)7.5–10.0 UnitsMoisture (determined by Fischer method), % max:0.5% max by method of dryingDimensionLess than 1 mm: AbsenceMelting Point132 °CColorStandard White or Pure WhiteQualityFree Flowing, Non Clotted, Free From Harmful Substances	Arsenic %	10ppm
Selenium0.4ppmChromium430ppmInsoluble (ppm)20Granulation0.85–3.35 mm not less than 90%Physical StateSolid at 20 °C, 101 KPA White GranulesPhysical PresentationWhite GranularSpecific Gravity-1.335t/mMolecular Weight60.065Critical/relative Humidity (30 °C)73%Solubility in water at 20 °C100gm/100ml of waterAnti-Caking AgentFree Floating Treated Against Anti-Caking TreatmentAdditiveNonePH (10 wt% solution)7.5–10.0 UnitsMoisture (determined by Fischer method), % max:0.5% max by method of dryingDimensionLess than 1 mm: AbsenceMelting Point132 °CColorStandard White or Pure WhiteQualityFree Flowing, Non Clotted, Free From Harmful Substances	Cadmium	3ppm
Chromium430ppmInsoluble (ppm)20Granulation0.85–3.35 mm not less than 90%Physical StateSolid at 20 °C, 101 KPA White GranulesPhysical PresentationWhite GranularSpecific Gravity- 1.335t/mMolecular Weight60.065Critical/relative Humidity (30 °C)73%Solubility in water at 20 °C100gm/100ml of waterAnti-Caking AgentFree Floating Treated Against Anti-Caking TreatmentAdditiveNonePH (10 wt% solution)7.5–10.0 UnitsMoisture (determined by Fischer method), % max:0.5% max by method of dryingDimensionLess than 1 mm: AbsenceMelting Point132 °CColorStandard White or Pure WhiteQualityFree Flowing, Non Clotted, Free From Harmful Substances	Mercury	0%
Insoluble (ppm)20Granulation0.85–3.35 mm not less than 90%Physical StateSolid at 20 °C, 101 KPA White GranulesPhysical PresentationWhite GranularSpecific Gravity-1.335t/mMolecular Weight60.065Critical/relative Humidity (30 °C)73%Solubility in water at 20 °C100gm/100ml of waterAnti-Caking AgentFree Floating Treated Against Anti-Caking TreatmentAdditiveNonePH (10 wt% solution)7.5–10.0 UnitsMoisture (determined by Fischer method), % max:0.5% max by method of dryingDimensionLess than 1 mm: AbsenceMelting Point132 °CColorStandard White or Pure WhiteQualityFree Flowing, Non Clotted, Free From Harmful Substances	Selenium	0.4ppm
Granulation0.85–3.35 mm not less than 90%Physical StateSolid at 20 °C, 101 KPA White GranulesPhysical PresentationWhite GranularSpecific Gravity- 1.335t/mMolecular Weight60.065Critical/relative Humidity (30 °C)73%Solubility in water at 20 °C100gm/100ml of waterAnti-Caking AgentFree Floating Treated Against Anti-Caking TreatmentAdditiveNonePH (10 wt% solution)7.5–10.0 UnitsMoisture (determined by Fischer method), % max:0.5% max by method of dryingDimensionLess than 1 mm: AbsenceMelting Point132 °CColorStandard White or Pure WhiteQualityFree Flowing, Non Clotted, Free From Harmful Substances	Chromium	430ppm
Physical StateSolid at 20 °C, 101 KPA White GranulesPhysical PresentationWhite GranularSpecific Gravity-1.335t/mMolecular Weight60.065Critical/relative Humidity (30 °C)73%Solubility in water at 20 °C100gm/100ml of waterAnti-Caking AgentFree Floating Treated Against Anti-Caking TreatmentAdditiveNonePH (10 wt% solution)7.5–10.0 UnitsMoisture (determined by Fischer method), % max:0.5% max by method of dryingDimensionLess than 1 mm: AbsenceMelting Point132 °CColorStandard White or Pure WhiteQualityFree Flowing, Non Clotted, Free From Harmful Substances	Insoluble (ppm)	20
Physical PresentationWhite GranularSpecific Gravity-1.335t/mMolecular Weight60.065Critical/relative Humidity (30 °C)73%Solubility in water at 20 °C100gm/100ml of waterAnti-Caking AgentFree Floating Treated Against Anti-Caking TreatmentAdditiveNonePH (10 wt% solution)7.5–10.0 UnitsMoisture (determined by Fischer method), % max:0.5% max by method of dryingDimensionLess than 1 mm: AbsenceMelting Point132 °CColorStandard White or Pure WhiteQualityFree Flowing, Non Clotted, Free From Harmful Substances	Granulation	0.85–3.35 mm not less than 90%
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Molecular Weight60.065Critical/relative Humidity (30 °C)73%Solubility in water at 20 °C100gm/100ml of waterAnti-Caking AgentFree Floating Treated Against Anti-Caking TreatmentAdditiveNonePH (10 wt% solution)7.5–10.0 UnitsMoisture (determined by Fischer method), % max:0.5% max by method of dryingDimensionLess than 1 mm: AbsenceMelting Point132 °CColorStandard White or Pure WhiteQualityFree Flowing, Non Clotted, Free From Harmful Substances	Physical Presentation	White Granular
Critical/relative Humidity (30 °C)73%Solubility in water at 20 °C100gm/100ml of waterAnti-Caking AgentFree Floating Treated Against Anti-Caking TreatmentAdditiveNonePH (10 wt% solution)7.5–10.0 UnitsMoisture (determined by Fischer method), % max:0.5% max by method of dryingDimensionLess than 1 mm: AbsenceMelting Point132 °CColorStandard White or Pure WhiteQualityFree Flowing, Non Clotted, Free From Harmful Substances	Specific Gravity	– 1.335t/m
Solubility in water at 20 °C100gm/100ml of waterAnti-Caking AgentFree Floating Treated Against Anti-Caking TreatmentAdditiveNonePH (10 wt% solution)7.5–10.0 UnitsMoisture (determined by Fischer method), % max:0.5% max by method of dryingDimensionLess than 1 mm: AbsenceMelting Point132 °CColorStandard White or Pure WhiteQualityFree Flowing, Non Clotted, Free From Harmful Substances	Molecular Weight	60.065
Anti-Caking AgentFree Floating Treated Against Anti-Caking TreatmentAdditiveNonePH (10 wt% solution)7.5–10.0 UnitsMoisture (determined by Fischer method), % max:0.5% max by method of dryingDimensionLess than 1 mm: AbsenceMelting Point132 °CColorStandard White or Pure WhiteQualityFree Flowing, Non Clotted, Free From Harmful Substances	Critical/relative Humidity (30 °C)	73%
AdditiveNonePH (10 wt% solution)7.5–10.0 UnitsMoisture (determined by Fischer method), % max:0.5% max by method of dryingDimensionLess than 1 mm: AbsenceMelting Point132 °CColorStandard White or Pure WhiteQualityFree Flowing, Non Clotted, Free From Harmful Substances	Solubility in water at 20 °C	100gm/100ml of water
PH (10 wt% solution)7.5–10.0 UnitsMoisture (determined by Fischer method), % max:0.5% max by method of dryingDimensionLess than 1 mm: AbsenceMelting Point132 °CColorStandard White or Pure WhiteQualityFree Flowing, Non Clotted, Free From Harmful Substances	Anti–Caking Agent	Free Floating Treated Against Anti-Caking Treatment
Moisture (determined by Fischer method), % max:0.5% max by method of dryingDimensionLess than 1 mm: AbsenceMelting Point132 °CColorStandard White or Pure WhiteQualityFree Flowing, Non Clotted, Free From Harmful Substances	Additive	None
DimensionLess than 1 mm: AbsenceMelting Point132 °CColorStandard White or Pure WhiteQualityFree Flowing, Non Clotted, Free From Harmful Substances	PH (10 wt% solution)	7.5–10.0 Units
Melting Point132 °CColorStandard White or Pure WhiteQualityFree Flowing, Non Clotted, Free From Harmful Substances	Moisture (determined by Fischer method), % max:	0.5% max by method of drying
Color Standard White or Pure White   Quality Free Flowing, Non Clotted, Free From Harmful Substances	Dimension	Less than 1 mm: Absence
Quality Free Flowing, Non Clotted, Free From Harmful Substances	Melting Point	132 °C
Quality Substances	Color	Standard White or Pure White
Salinity Index 75.4	Quality	
	Salinity Index	75.4
2 to 5 mm 95%	2 to 5 mm	95%
1 to 4 mm –	1 to 4 mm	_



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## HUDSON OIL CORPORATION

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### **Guaranteed Specification – Prilled**

COMPOSITION	SPECIFICATION
Urea Assay (wt %)	98.0 min
Mass portion of nitrogen (N) on a dry basis, %min	46.2
Mass portion of Biuret, %, max	0.71
Ferrum %	0.0007
Apparent Density (Kg/m <sup>3</sup> )	770–809 Kg/m <sup>3</sup>
Free Ammonia	160 PXT PPM maximum
Granulation	0.85–3.35 mm not less than 90%
Sulphates %	0.0079
Alkalinity %	0.022
Arsenic %	10ppm
Cadmium	3ppm
Mercury	0%
Selenium	0.4ppm
Chromium	430ppm
Insoluble (ppm)	20
Granulation	0.85 – 3.35 mm not less than 90%
Physical State	Solid at 20 °C, 101 KPA White Granules
Physical Presentation	Spherical & Uniform in Size
Specific Gravity	Solid at 20 °C, – 1.335 t/m
Molecular Weight	60.065
Critical/relative Humidity (30 °C)	73%
Solubility in water at 20 °C	100g/100 ml of water
Anti-Caking Agent	Free Floating Treated Against Anti-Caking Treatment
Additive	None
PH (10 wt% solution)	7.5–10.0 units
Moisture (determined by Fischer method), % max:	0.5% max by method of drying
Dimension	Less than 1 mm: Absence
Melting Point	132 °C
Color	Standard White or Pure White
Salinity Index	75.4
Crumbliness	100%
Quality	Free Flowing, Non Clotted, Free From Harmful Substances

Odor threshold Odorless or Slight Ammonia.

Boiling point decomposes before boiling.



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Hazardous Ingredients none according to controlled product regulations.

### **Physical Specification:**

White, Free Flowing, non – clotted 100% free from harmful substances.

Internationally accepted standard for Urea N46%.

Free from Impurities, Sand, Dust and Certified Non-Radioactive.

Vapor density not applicable.

Floatability/Water sinks and mixes.

PH Value 8.0 – 8.5. Usage:

More than 90% of world industrial production of Urea is destined for use as Nitrogen–release fertilizer. Urea has the highest Nitrogen (N) content of all solid nitrogen content of all solid nitrogenous fertilizers in common use. Therefore, it has the lowest transportation costs per units of nitrogen nutrient. The standard crop–nutrient rating of urea is 46 - 0 - 0. The most common impurity of synthetic urea is Biuret, which impairs plant growth. Urea is usually spread at rates of between 40 and 300 Kg/HA, but rates vary. Smaller applications incur lower losses due to leaching. During summer season, Urea is often spread just before or during rain to minimize losses from volatilization (A process wherein Nitrogen (N) is lost to the atmosphere as Ammonia Gas). Due to the high Nitrogen concentration in Urea, it is very important to achieve an even spread. The application equipment must be correctly calibrated and properly used.