



**Fertilizers
SURVEY**



It's Shipping & Survey



**Our Company CISS Group
(Commodities International
Survey Services) –
this is a team of professionals
with experience of doing
business in major international
survey companies more than
15 years.**

ABOUT COMPANY

We have teamed up our forces, experience and knowledge in order to offer only the best practice and business solutions in the field of independent inspections for active commodities traders (grains, fertilizers) and others players all over the world.

Operational excellence and high standards of **CISS GROUP** allow our partners feel protected twenty-four-hour a day.





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Fertilizer, natural or artificial substance containing the chemical elements that improve growth and productiveness of plants. Fertilizers enhance the natural fertility of the

soil or replace the chemical elements taken from the soil by previous crops.

CISS GROUP can help you to meet your operational needs by providing accurate fertilizers analyses, which will help for your business grow.

Testing performed in accordance with

CISS GROUP is a largest provider of control and inspection on fertilizers and agricultural inputs worldwide. We have extensive experience with fertilizers factories and selling/buying trading organizations.

We have a significant network of surveyors and office branches Worldwide.



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There are different kinds of fertilizers can be tested and inspected for further certification by **CISS GROUP**:

- Urea
- NPK
- Potash
- Sulphur fertilizer
- Anhydrous Ammonia fertilizer
- Granular TSP (triple super phosphate) fertilizer
- UAN solution (urea and ammonium nitrate)
- Sodium sulfate
- Ammonium sulfate/Ammonium nitrate
- Liquid/Solution fertilizer
- Others fertilizers like: SOP (sulfate of potash), MOP (muriate of potash), DAP (diammonium phosphate) and MAP (monoammonium phosphate)





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Fertilizers mostly shipped in bulk or bags. In most cases scope of inspection consists of:

- Preshipment inspection (PSI)
- Cargo sampling either from stock piles before shipment or during loading from conveyor belt or from bags
- Loading / discharge supervision
- Weight control
- Tally count
- Draught survey for vessel
- Testing and analyses in the laboratories





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The purposes of testing and inspection certification services:

- To determine on exact specification of fertilizers (quality control).
- To control weight of fertilizers (quantity control).
- To identify marking, label, packing of fertilizers.
- To control shipment of fertilizers, i.e. is suitable for a selling & buying under contracts parameters.
- To prevent on damage and loss of shipment of fertilizers





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CISS GROUP certificates are recognized and valued in the global fertilizer trade and are accepted in the markets as true evidences. We can perform services from different sides:

- At factories / manufactories.
- At seller's premise (exporting countries).
- At buyer's warehouse (importing countries).
- At ports during loading/discharging (for Vessel and Container)
- At joint survey and loss prevention of fertilizers (for cargo insurance and dispute).

TESTING





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NPK

NPK fertilizers are three-component fertilizers providing nitrogen, phosphorus, and potassium.

Main analyses includes:

- Moisture
- Total N
- Ammoniacal N
- Available phosphorus (as P_2O_5)
- Water soluble phosphates (as P_2O_5)
- Water soluble potash (as K_2O)
- Zinc (as Zn)
- Particle size
- Clumping & caking

NPK rating is a rating system describing the amount of nitrogen, phosphorus, and potassium in a fertilizer.



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UREA

Urea is an inexpensive form of nitrogen fertilizer with an NPK (nitrogen-phosphorus-potassium) ratio of 46-0-0.

Synthetic urea is manufactured with anhydrous ammonia. Special steps must be taken when applying urea to the soil to prevent the loss of nitrogen through a chemical reaction. In general, urea provides the most nitrogen to the soil. Urea may be mixed with other fertilizers or may be applied on its own. For plants that love acidic soils, urea is one of the top fertilizers for acidifying soils.

For farmers and gardeners who grow crops like corn, strawberries, blueberries and other heavy nitrogen feeders, urea will supply immediate and powerful applications of nitrogen.



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**There are list of main analyses which
CISS GROUP
can perform:**

- Moisture (water content)
- Total Nitrogen
- Biuret
- Neem oil content soluble in benzene
- Particle size/Screening
- Whiteness
- Clumping & caking
- Alkalinity
- Chloride analyses
- Formaldehyde
- Free ammonia content
- Borden test
- Uniformity Index (UI)
- Forms of Carbon analysis
- Solubility

UREA





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OTHER TESTING

Others fertilizers testintg parameters:

AMMONIUM NITRATE

- Luminum analysis
- Boron analysis
- Chloride analysis
- Bulk density
- Galoryl
- Particle hardness
- Magnesium analysis
- Water analysis (moisture content)
- Total Nitrogen analysis
- Ammonium Nitrogen analysis
- Screening
- Porosity
- Combustible ingredients

AMMONIUM SULFATE

- Color, visual
- Bulk density
- Free acid analysis
- Water analysis (moisture content)
- Ammonium nitrogen analysis
- Total Nitrogen analysis
- Screening
- Size Guide Number (SGN)
- Forms of Sulfur analysis
- Uniformity Index (UI)
- Forms of Carbon analysis
- Solubility

POTASH

- Angle of Repose
- Bulk density
- Calcium analysis
- Chloride analysis
- Color, visual
- Magnesium analysis
- Water analysis (moisture content)
- Particle hardness
- pH analysis (ISE06T)
- Potassium content (K_2O , KCl)
- Screening
- Forms of Sulfur
- Water residues

UAN solution

- Total Fraction of Total Mass of Nitrogen
- Mass Ratio - Urea/Ammonium Nitrate
- Alkalinity
- Viscosity
- Fraction of Total Mass of Inhibitor (P_2O_5)
- Solidification
- Freezing Point
- Total Nitrogen analysis
- Nitrate Nitrogen analysis
- Specific Gravity
- Nitrogen from UREA analysis



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Analyses for PHOSPHATE FERTILIZER and ROCK PHOSPHATE:

Activity Index – Nitrogen, Acid, Insoluble, (CLA10E), Aluminum analysis, Free Ammonia content, Angle of Repose, Phosphorous analysis, Boron, Bulk density, contents of: Cadmium, Calcium, Chloride, Phosphorous, Magnesium, Manganese, Sodium, Strontium, Phosphorous, Zinc.

Color (visual), Size screening, Fluoride, Free Acid, Water (moisture content) and total Moisture, ICP Trace Metals, Iron analysis, Lead, Loss on Ignition, Mercury Hg CVA14C, Nitrate Nitrogen and total Nitrogen, Ammonium Nitrogen, Nitrogen from Urea, Oil & Grease analysis, Particle hardness, pH analysis (ISE06T), Potassium content (K_2O , KCl), Radioactivity, Size Guide Number (SGN), Specific Gravity, Forms of Sulfur, Trace elements analysis (ICP), Uniformity Index (UI), Water Residues (Water Insoluble Matter).

**OTHER
TESTING**





Soil analysis is a set of various chemical processes that determine the amount of available plant nutrients in the soil, but also the chemical, physical and biological soil properties important for plant nutrition, or “soil health”.

Chemical soil analysis determines the content of basic plant nutrients; nitrogen (N), phosphorus (P_2O_5), potassium (K_2O), pH, humus content, total $CaCO_3$, available lime, organic matter, total sulphur (S), trace elements, and other physical characteristics (capacity, permeability, density, pH - value).

Soil analysis is simple:

- Taking soil samples
- Laboratory analysis of samples
- The interpretation of the results by the issuance of fertilizer recommendation.



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The aims of soil analysis are:

- To determine the level of availability of nutrients or the need for its introduction
- To predict the increase in yields and profitability of fertilization (poor soils do not always provide yield increase due to fertilization because of possible limiting factors)
- To provide the basis for calculating the required fertilizing of each crop
- To evaluate the status (supply) of each nutrient element and simultaneously determine the compensation plan (nutrient management).

The following estimations are generally carried out in a testing laboratory: soil texture, soil structure, cation exchange capacity (CEC), soil moisture, water holding capacity, pH, lime requirement, electrical conductivity, gypsum requirement, organic C, total N, mineralizable N, inorganic N, available P, available K, available S, calcium, calcium plus magnesium, micronutrients – available Zn, Cu, Fe, Mn, B and Mo.

SOIL





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