



MATERIAL SAFETY DATA SHEET

PRODUCT : NPK 19:19:19
PRODUCT DESIGNATION : Water Soluble Fertilizer

Section 1. Product & Company Identification

Common Name : Nitrogen, Phosphorous and Potassium
Active Ingredient : Nitrogen, Phosphorous and Potassium
Chemical Name of Active Ingredient (IUPAC) : Nitrogen, phosphorous, potassium
Chemical Family of A. I. : plant hormone gibberellins
CAS NO. : **NPK** - 66455-26-3
Nitrogen – 7727-37-9
Phosphorous - 7723-14-0
Potassium - 7440-09-7
Molecular Formula of A. I. : NPK 19:19:19
Molecular Mass of A. I. : **Nitrogen** – 14.0067 g/mol
Phosphorous - 30.9737 g/mol
Potassium - 39.0983 g/mol
Manufacturer & Supplier : **M/s PERFECT SOLUTIONS**
Office Add: B-371, Paschim Vihar, New Delhi - 110063 (India)
Factory Add: 15/1, 15/2, 15/3 Industrial Estate, Vidisha - 464001 (M.P.)
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Section 2. Composition / Information on Ingredients

Identity	% W/W content
Nitrogen (as N) % by weight (Min.)	19.00% w/w
Water Soluble Phosphate (as P ₂ O ₅) % by weight (Min.)	19.00% w/w
Water soluble Potash (as K ₂ O)% by weight (Min.)	19.00% w/w
Nitrate Nitrogen % by weight (Max.)	4.0% w/w



Ammonical Nitrogen (as NH ₄) % by weight (Min.)	4.5% w/w
Urea Nitrogen % by weight (Max.)	10.5% w/w
Other additives	Q. S to make
Total	100.00%

Section 3. Hazards Identification

Emergency Overview

Appearance and odour: Brown and Almonds Odor

Warning Statements: Keep out of reach of children

Potential Health Effects Likely Routs of Exposure: Skin contact, Inhalation and Ingestion.

Eye Contact: Causes severe eye irritation.

Skin contact: Wash with plenty of water while removing contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Destroy contaminated leather items such as shoes, belts, and watchbands.

Ingestion: If swallowed, May be harmful.

Inhaled: Avoid breathing dusts or spray mist.

Section 4. First Aid Measures

Emergency and First Aid Procedure –

If in Eyes: Flush eyes with clean water for at least 15 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. Seek medical attention if irritation persists.

If on Skin: Remove contaminated clothing and wash before reusing. Flush skin with water and then wash with soap and water. Seek medical attention if skin irritation persists..

If Inhaled: Remove person from contaminated area to fresh air and assist breathing as needed. Remove anything of a restrictive nature promptly. Seek medical attention if irritation occurs.

If Swallowed: Seek medical attention or call a poison control centre for treatment advice. Do not induce vomiting unless instructed to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

Note to Physician: Treat symptomatically and supportively. No specific antidote known.



Section 5. Fire Fighting Measures

Hazardous product of Combustion: Large volumes may penetrate the soil and contaminate groundwater.

Extinguishing Media: Use carbon dioxide or dry chemical for small fires and water fog or alcohol resistant foam for large fires.

Unsuitable Extinguishing Media: Water jet. Use a water jet only to cool heated containers.

Special Fire fighting Procedures: Remove spectators from surrounding area. Isolate the fire area and evacuate all personnel downwind of the fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Keep upwind. Avoid inhaling hazardous vapours and fumes from burning materials. Remove container from fire area if possible and without risk. Do not use high volume water jet, due to contamination risk. Do not scatter the burning material. Water can be used to cool unaffected containers but must be contained for later disposal. Contain fire control agents for later disposal. Avoid pollution of waterways by run-off from the site

Personal Protective Equipment: Wear NIOSH/MSHA approved self-contained breathing apparatus and full bunker gear.

Section 6. Accidental Release Measures

Personal Precautions: Avoid contact with skin and eyes. Do not breathe in fumes.

Protective equipment: Personal protective equipment to be worn during containment and clean-up of a spill involving this product

Emergency Procedures: Alert firefighting personnel, evacuate unprotected personnel and animals.

Environmental Precautions: Prevent spilled product from entering sewers, waterways or ground water as the product is classified to be very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Any spillages or uncontrolled discharges into water courses should be immediately reported to the police and the Department of Water/Environmental Affairs.

Steps to be taken in case of a spill: Cover contained spill with an inert absorbent material such as sand, vermiculite, earth or other appropriate material. Vacuum, scoop, or sweep up material and place the material into a clean, dry, sealable container. Label containers with the



contents and dispose of according to local regulations. Do not place spilled material back in original container. Do not re-use spilled material. Collect washings and add to the drums already collected. Do not flush spilled material or washings into drains or waterways. To decontaminate the spill area, tools and equipment, wash with water and suitable detergent.

Section 7. Handling & Storage

Precautions in Handling: Avoid contact with skin and eyes. Ensure adequate ventilation during handling and use. Do not handle broken packages without protective equipment. Immediately clean up spills that occur during handling. Keep containers closed when not in use.

Precautions in Storage: Store in its original container in dry, cool, well-ventilated area. Avoid excess heat. Not to be stored next to foodstuffs, feed and water supplies. Keep out of reach of children, uninformed persons and animals. Do not contaminate with other pesticides and fertilizers

General Occupational Hygiene: Practice good hygiene when using this material. Wash hands before eating, drinking, chewing gum, smoking, using the toilet or applying cosmetics. Worker should shower at the end of each workday. Launder all clothing before it is re-used again.

Section 8. Exposure Control, Personal Protection

Respiratory Protection: For most well-ventilated conditions, no respiratory protection should be needed. If used in a poorly ventilated area (airborne concentrations exceed exposure limits), use a NIOSH approved airpurifying respirator with cartridges/canisters approved for organic vapours.

Protective Gloves: The use of chemically protective impervious gloves is recommended to prevent against skin contact.

Eye Protection: The use of chemical safety goggles is recommended to prevent against eye contact. Contact lenses are not protective eye devices.

Skin Protection: Employee must wear appropriate protective (impervious) clothing; boots, hat and equipment to prevent repeated or prolonged skin contact with this substance.



Emergency Eyewash: Where there is any possibility that an employee's eyes may be exposed to this substance; the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use

Engineering Control: It is essential to provide adequate ventilation. The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. Local Exhaust: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs or other specified exposure limits. Local exhaust ventilation is preferred. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations

Section 9. Physical and Chemical Properties

Appearance / state	:	White powder
Color	:	White
Odor	:	Characteristic odor
Melting point	:	Not Applicable
pH	:	Not less than 4
Corrosivity	:	Non-corrosive
Flammability	:	Non- Flammable
Flash Point	:	50°C

Section 10. Stability & Reactivity

Chemical Stability: Product is stable at ambient temperature and pressure, under normal storage and handling conditions. Stable for up to 2 years when stored in a dry, cool covered warehouse in original, well-labelled containers. Store at low temperature conditions, below 50°C, preferably below 30 °C and not for prolonged periods in direct sunlight.

Conditions to Avoid: Extreme heat or exposure to flames

Incompatible Materials: Strong oxidizing substances.

Hazardous Decomposition Product: Decomposition products may include toxic and irritant fumes

Hazardous Reactions: Will not occur

Section 11. Toxicological Information



Route(s) of Entry

Ingestion: LD₅₀, oral, rat: > 2000 mg/kg body weight

Skin: LD₅₀, dermal, rat: > 4000 mg/kg body weight

Not irritant to skin and eyes

Not a skin sensitizer (guinea pig)

Section 12. Ecological Information

Acute Oral Toxicity in Birds: In Mallard ducks >7913 mg/kg of body weight

Acute Toxicity in Fish (96 hrs LC₅₀) : Rainbow trout : 27.8 mg/L

Acute Toxicity Honey bees: Oral LC₅₀ 48 Hrs. > 2 µg/bee

Section 13. Disposal Consideration

Waste Treatment Methods: Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or re-processed. Never pour untreated waste or surplus product into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers. Comply with local legislation applying to waste disposal.

Containers: Do not re-use the empty container for any other purpose. Triple rinse empty containers by inverting the empty container over the spray or mixing tank and allow draining for at least 30 seconds after the flow has slowed down to a drip. Thereafter, rinse the container three times with a volume of water equal to a minimum of one third of that of the container. Add the rinsings to the contents of the spray tank before recycling or destroying the container in the prescribed manner. Comply with local legislation applying to waste disposal.

Section 14. Transport Information



The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

Toxic substances under the applicable, ICAO/IATA, IMO, ADG.

IMDG Classification

Shipping name : Not regulated as a dangerous good

Class : Not regulated as a dangerous good

Packing group : Not regulated as a dangerous good

UN number : Not regulated as a dangerous good

Marine pollutant : Not regulated as a dangerous good

Section 15. Regulatory Information

Safety, health and environmental regulations/legislation for the mixture: OSHA 1993

Regulations for Hazardous Chemical Substances.

Relevant information regarding restrictions: None.

EU regulation: Regulation EC1272/2008 (EU-GHS/CLP)

Other national regulations: None.

Section 16. Other Information

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are resented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produces formulations containing this product, it is the recipient's sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS. Accordingly, no guarantee or warrantee expressed or implied is made by PERFECT SOLUTIONS, as to the results to be obtained based upon the user's use of the information, nor does PERFECT SOLUTIONS, assume any liability arising out of user's use of the information.



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