



Nitro "K" Complete 21-0-6 6S plus BioMarc

Safety Data Sheet

Revision Date: 2/3/2020

Version 1.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Name: Nitro "K" Complete 22-0-4 4S plus BioMarc

Product Form: Mixture

Synonyms: 22-0-4-4S, NKS Fertilizer, UAN with Potash and Sulfur

1.2. Intended Use of the Product

Agricultural Industry: Fertilizer

1.3. Name, Address, and Telephone of the Responsible Party

Marco NPK

201 East Benton Street

Clinton, IL 61727

(217) 935-2178

www.marconpk.com

1.4. Emergency Telephone Number

For Transportation Emergencies call Hazmat Response at (800) 229-5252

For Other Emergencies call 911 and/or Appropriate Regulatory Agencies

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US Classification

Eye Irrit. 2A H319

Mild Skin Irrit. 3 H316

Full text of H-phrases: see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US):



Signal Word (GHS-US):

Warning

Hazard Statements (GHS-US):

H319 - Causes serious eye irritation.

H316 - Causes mild skin irritation.

Precautionary Statements (GHS-US):

P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.

P280 - Wear protective gloves, protective clothing, and eye protection.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 - If eye irritation persists: Get medical advice/attention.

2.3. Other Hazards

No additional information available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable

3.2. Mixture

Name	Product Identifier	% (w/w)	Classification (GHS-US)
Urea Ammonium Nitrate	(CAS No) 15978-77-5	56-58	Eye Irrit. 2A, H319
Potassium chloride	(CAS No) 7447-40-7	9-11	Eye Irrit. 2B, H320
Ammonium Thiosulfate	(CAS No) 7783-18-8	22-24	Mild Skin Irrit. 3, H316
Water	(CAS No) 7732-18-5	9-11	Not classified

Full text of H-Phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

- General:** Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- Inhalation:** When symptoms occur: go into open air and ventilate suspected area. Call a POISON CENTER/doctor/physician if you feel unwell.
- Skin Contact:** Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists. Wash contaminated clothing before reuse.
- Eye Contact:** Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.
- Ingestion:** Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

- General:** Causes eye irritation.
- Inhalation:** May cause irritation to the respiratory tract.
- Skin Contact:** May cause skin irritation.
- Eye Contact:** Causes eye irritation. Symptoms may include: Redness, pain, swelling, itching, burning, tearing, and blurred vision.
- Ingestion:** If a large quantity has been ingested: Abdominal pain; Diarrhea; Nausea; Vomiting; Tingling in hands and feet; Weak pulse; Circulatory disturbances.

Chronic symptoms: Overexposure to this material may result in methemoglobinemia.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing Media

- Suitable Extinguishing Media:** Use extinguishing media appropriate for surrounding fire.
- Unsuitable Extinguishing Media:** Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

- Fire Hazard:** Contains substances that are oxidizers when in solid form. May cause fire if allowed to dry. Under conditions of fire, material may produce: Potassium oxides; Hydrogen chloride; Chlorine gas.
- Explosion Hazard:** May be explosive in contact with flammable or organic substances and confinement during fire.
- Reactivity:** Accelerates the rate of burning materials. Oxidizer if allowed to dry.

5.3. Advice for Firefighters

- Precautionary Measures Fire:** Exercise caution when fighting any chemical fire. Under fire conditions closed containers may rupture or explode.
- Firefighting Instructions:** Do not allow product to evaporate to dryness. For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Water spray may be useful in minimizing or dispersing vapors. Cool equipment exposed to fire with water, if it can be done with minimal risk. Keep upwind.
- Protection During Firefighting:** Do not enter fire area without proper protective equipment, including respiratory protection. Wear full bunker gear.
- Hazardous Combustion Products** Nitrogen oxides. Ammonia. Toxic vapors. Carbon oxides (CO, CO₂).

Sulfur oxides. Sulfur. Ammonium Sulfate. Hydrogen Sulfide.

Other information:

Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Use special care to avoid static electric charges. Keep away from open flames, hot surfaces and sources of ignition. No smoking. Avoid all contact with skin, eyes, or clothing. Avoid breathing vapor, mist or spray.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel. Eliminate ignition sources.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Stop leak if safe to do so. Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Contact competent authorities after a spill.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Absorb and/or contain spill with inert material, then place in suitable container. Do not take up in combustible material such as: saw dust or cellulosic material. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection. See Section 13, Disposal Considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Smothering, contact with organic material, or combustible material may cause an explosive situation. Thoroughly wash out pipes, tanks, or valves before welding or burning. Residual solidified Ammonium Nitrate may explode under high temperatures and confinement. Heating above 140F will promote hydrolysis. Extreme cold (<32F) may cause crystallization of the product. Do not allow liquid to evaporate, as solid ammonium nitrate residue can explode.

Precautions for Safe Handling: Use only outdoors or in a well-ventilated area. Avoid all eye and skin contact, and do not breathe vapor or mist.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Wash contaminated clothing before reuse.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Any proposed use of this product in elevated-temperature processes should be thoroughly evaluated to assure that safe operating conditions are established and maintained. Ventilate confined spaces before entering. Proper grounding procedures to avoid static electricity should be followed. Comply with applicable regulations.

Storage Conditions: Store in a dry, cool, and well-ventilated place. Keep in fireproof place. Store locked up. Store away from oxidizers, combustible materials, and all ignition sources. Protect container(s) against corrosion, physical damage, and extreme temperatures. Detached outside storage is preferable. May be corrosive to some metals especially aluminum.

Incompatible Materials: Strong acids. Strong bases. Strong oxidizers. Chlorine. Hypochlorites. Metallic powders. Combustible materials. Chromates. Zinc. Copper and its alloys. Chlorates.

7.3. Specific End Use(s)

Agricultural Industry: Fertilizer

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

There are no established Exposure limits.

8.2. Exposure Controls

Appropriate Engineering Controls:

Gas detectors should be used when toxic gases may be released. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use explosion-proof equipment. Ensure all national/local regulations are observed. Provide sufficient ventilation to keep ammonia vapors below the permissible exposure limit.

Personal Protective Equipment:

Gloves. Protective goggles. Insufficient ventilation: wear respiratory protection. Protective clothing.



Materials for Protective Clothing:

Chemically resistant materials and fabrics.

Hand Protection:

Wear chemically resistant protective gloves.

Eye Protection:

Chemical goggles or safety glasses.

Skin and Body Protection:

Chemical resistant suit. Rubber apron, boots.

Respiratory Protection:

If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn.

Other Information:

When using, do not eat, drink, or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State:	Liquid
Appearance:	Colorless liquid
Odor:	Little or no detectable ammonia odor
Odor Threshold:	Not available
pH:	6.5-8
Evaporation Rate:	Not available
Melting Point:	Not available
Freezing Point:	Not available
Boiling Point:	Not available
Flash Point:	Not available
Auto-ignition Temperature:	Not available
Decomposition Temperature:	Not available
Flammability (solid, gas):	Not available
Lower Flammable Limit:	Not available
Upper Flammable Limit:	Not available
Vapor Pressure:	Not available
Relative Vapor Density at 20C:	Not available
Relative Density	10.75 lbs/gal
Specific Gravity:	1.292
Solubility:	Miscible
Partition Coefficient: N-Octanol/Water:	Urea: -1.59, Ammonium Nitrate: -3.1
Viscosity:	3.6 cP
Explosion Properties:	None known

SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Accelerates the rate of burning materials. Oxidizer if allowed to dry.
- 10.2. Chemical Stability:** May cause fire or explosion; strong oxidizer.
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid:** Extremely high or low temperatures. Open flame. Heat. Sparks. High pressures - explodes if heated under confinement. Do not allow to dry out.
- 10.5. Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers. Chlorine. Hypochlorites. Metallic powders. Combustible materials. Chromates. Zinc. Copper and its alloys. Chlorates.
- 10.6. Hazardous Decomposition Products:** Nitrogen oxides. Ammonia. Carbon oxides (CO, CO₂) Sulfur oxides. Sulfur. Ammonium Sulfate. Hydrogen Sulfide.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects - Product

Acute Toxicity:	Not classified
LD50 and LC50 Data:	Not available
Skin Corrosion/Irritation:	Not classified
ph:	6.5-8
Serious Eye Damage/Irritation:	Causes serious eye irritation.
ph:	6.5-8
Respiratory or Skin Sensitization:	Not classified
Germ Cell Mutagenicity:	Not classified
Teratogenicity:	Not classified
Carcinogenicity:	Not classified
Specific Target Organ Toxicity (Repeated Exposure):	Not classified
Reproductive Toxicity:	Not classified
Specific Target Organ Toxicity (Single Exposure):	Not classified
Aspiration Hazard:	Not classified
Symptoms/Injuries After Inhalation:	May cause irritation to the respiratory tract.
Symptoms/Injuries After Skin Contact:	May cause skin irritation.
Symptoms/Injuries After Eye Contact:	Causes eye irritation. Symptoms may include: Redness, pain, swelling, itching, burning, tearing, and blurred vision.
Symptoms/Injuries After Ingestion:	Ingestion may cause methemoglobinemia.
Chronic Symptoms:	Overexposure may result in methemoglobinemia.

11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Water (7732-18-5)	
LD50 Oral Rate	>90000 mg/kg
Urea (57-13-6)	
LD50 Oral Rate	8471 mg/kg
Ammonium nitrate (6484-52-2)	
LD50 Oral Rate	2217 mg/kg
LC50 Inhalation Rate	>88.8 mg/l/4h
Potassium chloride (7447-40-7)	
LD50 Oral Rate	2600 mg/kg
Ammonium thiosulfate (7783-18-8)	
LD50 Oral Rate	1950 mg/kg

SECTION 12: ECOLOGICAL INFORMATION

- 12.1. Toxicity:** No additional information available.
- 12.2. Persistence and Degradability:** Not established.
- 12.3. Bioaccumulative Potential:** Not established.
- 12.4. Mobility in Soil** Not available.

12.5. Other Adverse Effects: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Sewage Disposal Recommendations: Do not empty into drains; dispose of this material in a safe way.

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT Not regulated for transport

14.2. In Accordance with IMDG Not regulated for transport

14.3. In Accordance with IATA Not regulated for transport

14.4. In Accordance with TDG Not regulated for transport

U.S. Surface Freight Classification: FERTILIZING COMPOUNDS (MANUFACTURED FERTILIZERS), NOI, LIQUID (NMFC 68140, SUB 6; CLASS 70)

SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

Urea Ammonium Nitrate Solution (15978-77-5)	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
Water (7732-18-5)	
Listed on the United States TSCA (Toxic Substances Control Act) Inventory	
Urea (57-13-6)	
Listed on the United States TSCA (Toxic Substances Control Act) Inventory	
Ammonium nitrate (6484-52-2)	
Listed on the United States TSCA (Toxic Substances Control Act) Inventory	
Potassium chloride (7447-40-7)	
Listed on the United States TSCA (Toxic Substances Control Act) Inventory	
Ammonium thiosulfate (7783-18-8)	
Listed on the United States TSCA (Toxic Substances Control Act) Inventory	

15.2. US State Regulations

If you are located in a state that has an OSH program approved by OSHA, you may be under state jurisdiction rather than federal jurisdiction and your state may have more stringent requirements than OSHA. You should consult your state regulations to ensure compliance.

15.3. Canadian Regulations

This product is not offered for sale in Canada.

SECTION 16: OTHER INFORMATION

GHS Full Text Phrases:

Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Eye Irrit. 2B	Serious eye damage/eye irritation Category 2B
Mild Skin Irrit. 3	Mild skin irritation Category 3
Ox. Sol. 3	Oxidizing solids Category 3
H272	May intensify fire; oxidizer
H316	Causes mild skin irritation
H319	Causes serious eye irritation
H320	Causes eye irritation

NFPA Health Hazard: 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA Fire Hazard: 0 - Materials that will not burn.

NFPA Reactivity: 0- Normally stable, even under fire exposure conditions, and area not reactive with water.



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