

MSDS – Potassium Nitrate

MATERIAL SAFETY DATA SHEET (MSDS) / SAFETY DATA SHEET (SDS)

1. Identification

Product Name: Potassium Nitrate

Chemical Name: Potassium nitrate

Synonyms: Niter, Saltpeter

Chemical Formula: KNO_3

CAS Number: 7757-79-1

Recommended Use: Fertilizers, food preservation, laboratory reagent, pyrotechnics, oxidizing agent

Restrictions on Use: Do not use for purposes not recommended by manufacturer

2. Hazard Identification

GHS Classification:

Oxidizing Solid – Category 3

Acute Toxicity (Oral) – Category 5 (low toxicity)

Signal Word: *Warning*

Hazard Statements:

May intensify fire; oxidizer

May cause irritation to eyes, skin, and respiratory tract

Harmful if swallowed in large amounts

Precautionary Statements:

Keep away from heat, sparks, and combustible materials

Avoid breathing dust

Wear protective gloves and eye protection

3. Composition / Information on Ingredients

Component	Concentration
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Potassium Nitrate (KNO_3)	$\geq 99\%$
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4. First-Aid Measures

Inhalation:

Move person to fresh air

Seek medical attention if symptoms persist

Skin Contact:

Wash with soap and water

Remove contaminated clothing

Eye Contact:

Rinse cautiously with water for at least 15 minutes

Seek medical attention if irritation persists

Ingestion:

Rinse mouth with water

Do NOT induce vomiting

Seek medical attention if large amounts are ingested

5. Fire-Fighting Measures

Suitable Extinguishing Media:

Water spray, dry chemical, foam

Specific Hazards:

Oxidizer; may intensify fire
Decomposes when heated, releasing nitrogen oxides
Protective Equipment:
Self-contained breathing apparatus (SCBA)
Full protective gear

6. Accidental Release Measures

Personal Precautions:
Avoid dust generation
Wear protective equipment
Environmental Precautions:
Prevent entry into waterways
Cleanup Methods:
Sweep up carefully
Dispose according to local regulations

7. Handling and Storage

Handling:
Avoid contact with combustible materials
Use in well-ventilated areas
Storage:
Store in a cool, dry, well-ventilated place
Keep container tightly closed

8. Exposure Controls / Personal Protection

Exposure Limits:
No established OSHA PEL or ACGIH TLV
Engineering Controls:
Local exhaust ventilation
Personal Protective Equipment (PPE):
Safety glasses
Gloves
Dust mask or respirator if dust is present

9. Physical and Chemical Properties

Appearance: White crystalline solid
Odour: Odourless
Melting Point: ~334 °C
Solubility: Soluble in water
pH: Neutral (aqueous solution)

10. Stability and Reactivity

Stability: Stable under normal conditions
Reactivity: Strong oxidizer
Incompatible Materials:
Combustible materials
Strong reducing agents
Hazardous Decomposition Products:
Nitrogen oxides

11. Toxicological Information

Acute Toxicity:

Low toxicity

Large doses may cause nausea, vomiting, headache

Chronic Effects:

Prolonged exposure may affect blood oxygen transport

12. Ecological Information

May contribute to nutrient loading in aquatic systems

Low acute toxicity to aquatic organisms

13. Disposal Considerations

Dispose of in accordance with local, regional, and national regulations

Do not dispose into drains or waterways

14. Transport Information

UN Number: UN 1486

Proper Shipping Name: Potassium nitrate

Hazard Class: 5.1 (Oxidizer)

Packing Group: III

15. Regulatory Information

OSHA Hazard Communication Standard: Hazardous

GHS Compliant

16. Other Information

Revision Date: 3rd March 2023