SECTION 1. IDENTIFICATION

Product Identifier: (4N) 99.99% Potassium Nitrate

Product Code: K-NAT-04

CAS Number: 7757-79-1

Relevant identified uses of the substance: Scientific research and development

Supplier details:

American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
Tel: +1 310-208-0551
Fax: +1 310-208-0351
Emergency telephone number: +1 800-424-9300

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
GHS03 Flame over circle
Ox. Sol. 2 H272 May intensify fire; oxidizer.
Classification according to Directive 67/548/EEC or Directive 1999/45/EC
O; Oxidizing
R8: Contact with combustible material may cause fire.
Information concerning particular hazards for human and environment:
N/A
Hazard not otherwise classified
No data available
Label elements
Labelling according to Regulation (EC) No 1272/2008
The substance is classified and labeled according to the CLP regulation.
Hazard pictograms

GHS03
Signal word: Danger
Hazard statements
H272 May intensify fire; oxidizer.

Precautionary statements
P221 Take any precaution to avoid mixing with combustibles.
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P220 Keep/Store away from clothing/combustible materials.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

WHMIS classification
C - Oxidizing materials

Classification system
HMIS ratings (scale 0-4)
(Hazardous Materials Identification System)
Health (acute effects) = 1
Flammability = 0
Physical Hazard = 2

Other hazards

Results of PBT and vPvB assessment
PBT: N/A
vPvB: N/A

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances
CAS No. / Substance Name:
7757-79-1 Potassium nitrate
Identification number(s):
EC number: 231-818-8

SECTION 4. FIRST AID MEASURES

Description of first aid measures
If inhaled:
Supply patient with fresh air. If not breathing, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.

In case of skin contact:
Immediately wash with soap and water; rinse thoroughly.
Seek immediate medical advice.

In case of eye contact:
Rinse opened eye for several minutes under running water. Consult a physician.

If swallowed:
Seek medical treatment.

Information for doctor
Most important symptoms and effects, both acute and delayed
No data available

Indication of any immediate medical attention and special treatment needed
No data available
SECTION 5. FIREFIGHTING MEASURES

Extinguishing media
Suitable extinguishing agents
Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
For safety reasons unsuitable extinguishing agents
Halocarbon extinguisher
Special hazards arising from the substance or mixture
During heating or in case of fire poisonous gases are produced.
This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.
If this product is involved in a fire, the following can be released:
Nitrogen oxides (NOx)
Potassium oxide
Advice for firefighters
Protective equipment:
Wear self-contained respirator.
Wear fully protective impervious suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Mount respiratory protective device.
Use personal protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources
Environmental precautions:
Do not allow material to be released to the environment without official permits.
Do not allow product to enter drains, sewage systems, or other water courses.
Do not allow material to penetrate the ground or soil.
Methods and materials for containment and cleanup:
Pick up mechanically.
Prevention of secondary hazards:
Acts as an oxidizing agent on organic materials such as wood, paper and fats
Keep away from combustible material.
Reference to other sections
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7. HANDLING AND STORAGE

Handling
Precautions for safe handling
Handle under dry protective gas.
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.
Information about protection against explosions and fires:
Substance/product can reduce the ignition temperature of flammable substances. This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. 

Conditions for safe storage, including any incompatibilities 
Requirements to be met by storerooms and receptacles:  
No special requirements. 
Information about storage in one common storage facility:  
Store away from flammable substances. 
Store away from reducing agents. 
Do not store with organic materials. 
Store away from metal powders. 
Store away from water/moisture. 
Further information about storage conditions:  
Store under dry inert gas. 
This product is hygroscopic. 
Keep container tightly sealed. 
Store in cool, dry conditions in well-sealed containers. 
Protect from humidity and water. 
Specific end use(s)  
No data available 

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION 

Additional information about design of technical systems:  
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute. 
Control parameters 
Components with limit values that require monitoring at the workplace:  
None. 
Additional information: No data 
Exposure controls 
Personal protective equipment 
Follow typical protective and hygienic practices for handling chemicals. 
Keep away from foodstuffs, beverages and feed. 
Remove all soiled and contaminated clothing immediately. 
Wash hands before breaks and at the end of work. 
Maintain an ergonomically appropriate working environment. 
Breathing equipment:  
Use suitable respirator when high concentrations are present. 
Recommended filter device for short term use:  
Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as a backup to engineering controls. 
Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards. 
Protection of hands: Impervious gloves 
Inspect gloves prior to use. 
Suitability of gloves should be determined both by material and quality, the latter of which may vary by manufacturer. 
Material of gloves 
Nitrile rubber, NBR 
Penetration time of glove material (in minutes)  
480 
Glove thickness 
0.11 mm
SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties
Appearance:
Form: Various forms (powder/flake/crystalline/beads, etc.)
Color: White
Odor: Odorless
Odor threshold: No data available.
pH: N/A
Melting point/Melting range: 334 °C (633 °F)
Boiling point/Boiling range: 400 °C (752 °F) (dec)
Sublimation temperature / start: No data available
Flammability (solid, gas)
Contact with combustible material may cause fire.
Ignition temperature: No data available
Decomposition temperature: No data available
Autoignition: No data available
Danger of explosion: No data available.
Explosion limits:
Lower: No data available
Upper: No data available
Vapor pressure: N/A
Density at 20 °C (68 °F): 2.109 g/cm³ (17.6 lbs/gal)
Relative density: No data available.
Vapor density: N/A
Evaporation rate: N/A
Solubility in Water (H₂O): Soluble
Partition coefficient (n-octanol/water): No data available.
Viscosity:
Dynamic: N/A
Kinematic: N/A
Other information
No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity
May intensify fire; oxidizer.
Chemical stability
Stable under recommended storage conditions.
Thermal decomposition / conditions to be avoided:
Decomposition will not occur if used and stored according to specifications.
Possibility of hazardous reactions
Reacts with reducing agents
Reacts with flammable substances
Conditions to avoid
No data available
Incompatible materials:
Flammable substances
Reducing agents
Water/moisture
Organic materials
Metal powders
Hazardous decomposition products:
Nitrogen oxides
Potassium oxide

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Acute toxicity:
The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.
LD/LC50 values that are relevant for classification:
Oral LD50 3540 mg/kg (rat)
Skin irritation or corrosion:
May cause irritation
Eye irritation or corrosion:
May cause irritation
Sensitization:
No sensitizing effects known.
Germ cell mutagenicity:
The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.
Carcinogenicity:
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
Reproductive toxicity:
The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.
Specific target organ system toxicity - repeated exposure: No effects known.
Specific target organ system toxicity - single exposure: No effects known.
Aspiration hazard: No effects known.
Subacute to chronic toxicity: No effects known.
Additional toxicological information:
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity
Aquatic toxicity:
No data available
Persistence and degradability
No data available
Bioaccumulative potential
No data available
Mobility in soil
No data available
Additional ecological information:
Do not allow material to be released to the environment without official permits. Do not allow undiluted product or large quantities to reach groundwater, water courses, or sewage systems. Avoid transfer into the environment. Results of PBT and vPvB assessment PBT: N/A vPvB: N/A Other adverse effects No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods
Recommendation
Consult official regulations to ensure proper disposal. Uncleaned packagings:
Recommendation:
Disposal must be made according to official regulations. Recommended cleansing agent:
Water, if necessary with cleansing agents.

SECTION 14. TRANSPORT INFORMATION

UN-Number
DOT, IMDG, IATA
UN1486
UN proper shipping name
DOT
Potassium nitrate
IMDG, IATA
POTASSIUM NITRATE
Transport hazard class(es)
DOT
Class
5.1 Oxidising substances.
Label
5.1
Class
5.1 (O2) Oxidizing substances
Label
5.1
IMDG, IATA
Class
5.1 Oxidising substances.
Label
5.1
Packing group
DOT, IMDG, IATA
III
Environmental hazards: N/A
Special precautions for user
Warning: Oxidizing substances
EMS Number:
F-A,S-Q
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
N/A
Transport/Additional information:
DOT
Marine Pollutant (DOT):
No
UN "Model Regulation":
UN1486, Potassium nitrate, 5.1, III

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture
National regulations
All components of this product are listed in the U.S. Environmental Protection Agency Toxic
Substances Control Act Chemical substance Inventory.
All components of this product are listed on the Canadian Domestic Substances List (DSL).
SARA Section 313 (specific toxic chemical listings)
Substance is not listed.
California Proposition 65
Prop 65 - Chemicals known to cause cancer
Substance is not listed.
Prop 65 - Developmental toxicity
Substance is not listed.
Prop 65 - Developmental toxicity, female
Substance is not listed.
Prop 65 - Developmental toxicity, male
Substance is not listed.
Information about limitation of use:
For use only by technically qualified individuals.
Other regulations, limitations and prohibitive regulations
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.
Substance is not listed.
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No
1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.
Substance is not listed.
Annex XIV of the REACH Regulations (requiring Authorisation for use)
Substance is not listed.
REACH - Pre-registered substances
Substance is listed.
Chemical safety assessment:
A Chemical Safety Assessment has not been carried out.

16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is
believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The
information in this document is based on the present state of our knowledge and is applicable to the
product with regard to appropriate safety precautions. It does not represent any guarantee of the
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