DUDA ENERGY LLC

Safety Data Sheet
POTASSIUM NITRATE

SECTION 1: Identification

1.1 Product identifier

<table>
<thead>
<tr>
<th>Product name</th>
<th>POTASSIUM NITRATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product number</td>
<td>Unavailable</td>
</tr>
<tr>
<td>Brand</td>
<td>Unavailable</td>
</tr>
<tr>
<td>Substance name</td>
<td>Potassium nitrate</td>
</tr>
<tr>
<td>EC no.</td>
<td>231-818-8</td>
</tr>
<tr>
<td>CAS no.</td>
<td>7757-79-1</td>
</tr>
</tbody>
</table>

1.2 Other means of identification

Unavailable

1.3 Recommended use of the chemical and restrictions on use

For industrial and manufacturing processes.

1.4 Supplier's details

<table>
<thead>
<tr>
<th>Name</th>
<th>Duda Energy LLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>1112 Brooks St.</td>
</tr>
<tr>
<td></td>
<td>Decatur, AL 35601</td>
</tr>
<tr>
<td></td>
<td>USA</td>
</tr>
<tr>
<td>Telephone</td>
<td>256.340.4866</td>
</tr>
<tr>
<td>Fax</td>
<td>Unavailable</td>
</tr>
<tr>
<td>email</td>
<td>Unavailable</td>
</tr>
</tbody>
</table>

1.5 Emergency phone number(s)

800.255.3924 (Chemtel)

SECTION 2: Hazard identification

General hazard statement
May intensify fire; oxidizer.
Harmful to aquatic life.

2.1 Classification of the substance or mixture
GHS classification in accordance with: UN GHS rev. 5
- Oxidizing solids (chapter 2.14), Cat. 3
- Hazardous to the aquatic environment - acute hazard (chapter 4.1), Cat. 3

2.2 GHS label elements, including precautionary statements

Pictogram

Signal word Warning

Hazard statement(s)
H272 May intensify fire; oxidizer
H402 Harmful to aquatic life

Precautionary statement(s)
P210 Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
P220 Keep/Store away from clothing/.../combustible materials.
P221 Take any precaution to avoid mixing with combustibles/...
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P370+P378 In case of fire: Use ... to extinguish.
P501 Dispose of contents/container to ...

2.3 Other hazards which do not result in classification
Unavailable

Statement regarding ingredients of unknown toxicity
Unavailable

SECTION 3: Composition/information on ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Substance name</th>
<th>Potassium nitrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC no.</td>
<td>231-818-8</td>
</tr>
<tr>
<td>CAS no.</td>
<td>7757-79-1</td>
</tr>
<tr>
<td>Formula</td>
<td>KNO3</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>101.1</td>
</tr>
<tr>
<td>Other names / synonyms</td>
<td>Nitric acid potassium salt (1:1); Potassium nitrate</td>
</tr>
<tr>
<td>Impurities and stabilizing additives</td>
<td>None</td>
</tr>
</tbody>
</table>

Hazardous components

1. Potassium nitrate

<table>
<thead>
<tr>
<th>Concentration</th>
<th>99 - 100 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS no.</td>
<td>7757-79-1</td>
</tr>
</tbody>
</table>
SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice
Get medical advice/attention if you feel unwell. Show this SDS to the doctor in attendance.

If inhaled
Move to fresh air. Get medical attention if symptoms persist.

In case of skin contact
Wash skin thoroughly with soap and water. Get medical attention if symptoms occur.

In case of eye contact
Flush with water. If irritation occurs, get medical assistance.

If swallowed
Rinse mouth. Get medical attention if symptoms occur.

Personal protective equipment for first-aid responders
Unavailable

4.2 Most important symptoms/effects, acute and delayed
May cause irritation to skin, eyes, and respiratory tract.

4.3 Indication of immediate medical attention and special treatment needed, if necessary
Treat symptomatically. Symptoms may be delayed.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media
This product is non-combustible. Use fire-extinguishing media appropriate for surrounding materials.

5.2 Specific hazards arising from the chemical
Strong oxidizer. Contact with combustible material may cause fire. Fire or high temperatures may cause explosive decomposition, especially if confined. Fire may produce irritating, corrosive and/or toxic gases.

5.3 Special protective actions for fire-fighters
Use standard protective equipment (flame retardant coat, helmet w/face shield, etc). If in enclosed spaces, use SCBA. Use water to keep fire-exposed containers cool. Move containers from fire area if you can do so without risk. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. Cool containers exposed to flames with water until well after the fire is out.

Further information
Unavailable

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Eliminate all ignition sources (NO SMOKING, flares, sparks, or flames in immediate area). Keep unauthorized personnel away. Use personal protective equipment. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses, or onto the ground. Do not contaminate water sources or sewer.

6.3 Methods and materials for containment and cleaning up
Keep combustibles (wood, paper, oils, etc) away from spilled material. Avoid dust formation. Sweep up and place in a clearly labelled container for chemical waste. Collect in a non-combustible container for prompt disposal. Clean surface thoroughly to remove residual contamination.

Reference to other sections
None.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Do not handle, store, or open near an open flame or other sources of heat/ignition. Protect material from direct sunlight. Keep away from combustible material. Use personal protective equipment as required. Avoid contact with eyes, skin, and clothing. Do not breathe dust. Use only with adequate ventilation. Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use.

7.2 Conditions for safe storage, including any incompatibilities
Keep material away from heat, light, sparks, and flame. Oxidizing material - store away from flammable and combustible materials. Store away from incompatible materials. Keep container tightly closed. Store in a dry, well-ventilated place.

Specific end use(s)
None

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Potassium nitrate (CAS: 7757-79-1)

8.2 Appropriate engineering controls
Emergency eye-wash fountains and safety showers should be available nearby in case of exposure.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection
Safety glasses/Goggles (to protect from dust)

Skin protection
Protective garb.

Body protection
**Respiratory protection**
Where dust is present, dust mask with filter type P2.

**Thermal hazards**
Unavailable

**Environmental exposure controls**
Unavailable

**SECTION 9: Physical and chemical properties**

**Information on basic physical and chemical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance/form (physical state, color, etc.)</td>
<td>Solid - Crystalline, Prills</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Unavailable</td>
</tr>
<tr>
<td>pH</td>
<td>6-8</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>334 °C/Unavailable</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>N/A</td>
</tr>
<tr>
<td>Flash point</td>
<td>N/A</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>N/A</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Unavailable</td>
</tr>
<tr>
<td>Upper/lower flammability limits</td>
<td>N/A</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>N/A</td>
</tr>
<tr>
<td>Vapor density</td>
<td>N/A</td>
</tr>
<tr>
<td>Relative density</td>
<td>2.1</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Soluble in water. Soluble in glycerol.</td>
</tr>
<tr>
<td>Water:</td>
<td>32g/100ml</td>
</tr>
<tr>
<td>Ethanol:</td>
<td>0.16g/100ml</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>N/A</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>N/A</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>400 °C</td>
</tr>
<tr>
<td>Viscosity</td>
<td>N/A</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>N/A</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>May intensify fire; oxidizer.</td>
</tr>
</tbody>
</table>

**Other safety information**
None

**SECTION 10: Stability and reactivity**

10.1 **Reactivity**
Decomposes on exposure to temperature rise: release of oxygen. On burning: release of toxic and corrosive gases/vapours (nitrous vapours). Violent to explosive reaction with many compounds e.g.: with organic material, with combustible materials, with (some) metals and their compounds and with (strong) reducers. Reacts with (some) acids: release of toxic and corrosive gases/vapours (nitrous vapours).
10.2 Chemical stability
Stable under normal conditions.

10.3 Possibility of hazardous reactions
Unavailable

10.4 Conditions to avoid

10.5 Incompatible materials

10.6 Hazardous decomposition products
Nitrogen oxides.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Not classified

Potassium Nitrate (CAS 7757-79-1)
LD50 (ORAL): Rat (3750 mg/kg)

Skin corrosion/irritation
Causes skin irritation.

Serious eye damage/irritation
Causes serious eye irritation.

Respiratory or skin sensitization
Not classified.

Germ cell mutagenicity
Not identified as mutagenic or genotoxic.

Carcinogenicity
Not evidenced as carcinogenic.

Reproductive toxicity
Not classified

Summary of evaluation of the CMR properties
Unavailable

STOT-single exposure
May cause respiratory irritation.

STOT-repeated exposure
Not classified.
Aspiration hazard
Not an aspiration hazard.

Additional information
None.

SECTION 12: Ecological information

Toxicity
Ecology - Water:
LC50 fishes 1 162 mg/l (96 h; Pisces; Lethal)
LC50 other aquatic organisms 1 39 mg/l (96 h; Daphnia magna)
EC50 other aquatic organisms 1 200 - 1000 mg/l (Plankton; Nocivity test)
LC50 fish 2 1378 mg/l (Poecilia reticulata)
LC50 other aquatic organisms 2 490 mg/l (48 h; Daphnia magna)
TLM fish 1 3000 mg/l (96 h; Lepomis macrochirus)
TLM fish 2 162 mg/l (96 h; Gambusia affinis)
Threshold limit other aquatic organisms 1 39 mg/l (96 h; Daphnia magna)
Threshold limit other aquatic organisms 2 490 mg/l (48 h; Daphnia magna)

Persistence and degradability
Unavailable

Bioaccumulative potential
Unavailable

Mobility in soil
This product is water soluble and so may spread in water systems.

Results of PBT and vPvB assessment
Unavailable

Other adverse effects
Harmful to aquatic organisms.

SECTION 13: Disposal considerations

Disposal of the product
Disposal of this product may be subject to local regulations. Dispose of accordingly.

Disposal of contaminated packaging
Emptied containers may hold product residue/waste material. Handle and dispose of these containers in accordance with any/all applicable regulations.

Waste treatment
Waste material should be disposed of in accordance with local regulations.
Prevent exposure to sewage or water-ways.

Other disposal recommendations
None

SECTION 14: Transport information

DOT (US)
UN Number: UN1486
Class: 5.1
Packing Group: III
Proper Shipping Name: Potassium nitrate
Marine pollutant: No

IMDG
UN Number: UN1486
Class: 5.1
EmS No.: F-A, S-Q
Packing Group: III
Proper Shipping Name: Potassium nitrate
Marine pollutant: No

IATA
UN Number: UN1486
Class: 5.1
Packing Group: III
Proper Shipping Name: Potassium nitrate
Marine pollutant: No

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Pennsylvania Right To Know Components
Chemical name: Nitric acid, potassium salt
CAS number: 7757-79-1

New Jersey Right To Know Components
Common name: POTASSIUM NITRATE
CAS number: 7757-79-1

15.2 Chemical Safety Assessment
Unavailable

HMIS Rating

<table>
<thead>
<tr>
<th>Potassium nitrate</th>
<th>HEALTH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>
SECTION 16: Other information

16.1 Further information/disclaimer
The information provided in this Safety Data Sheet is correct to the best of Duda Energy LLC's knowledge, information, and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. This Safety Data Sheet only contains information relating to safety and does not replace any product information or product specification. Please note, the content may be changed, corrected, or deleted at any time without notice and may not always necessarily reflect the most current data. Duda Energy LLC will assume no responsibility for any trouble or failure caused by the errors in the information provided, nor any damage associated with the usage of the information.

16.2 Preparation information
Version: 2
Revised: 04-05-2017