MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name: NPK Fertilizer 6-24-6

Version #: 01

Issue date: 12-24-2012

Revision date: -

Supersedes date: -

CAS #: Mixture

MSDS Number: KNC_6-24-6_B_US_EN

Product use: Fertilizer.

Synonym(s): 6-24-6

Manufacturer/Supplier: Koch Nitrogen Company, LLC

4111 E 37th Street North

PO Box 2219

Wichita, KS 67201-2219 US

kochmsds@kochind.com

1-316-828-7672

Emergency: For Chemical Emergency

Call CHEMTREC day or night

USA/Canada - 1-800-424-9300

Outside USA/Canada - 1.703.527.3887

(collect calls accepted)

2. Hazards Identification

Physical state: Liquid.

Appearance: Clear. Translucent liquid.

Emergency overview: WARNING

Harmful if swallowed. Causes skin, eye and respiratory tract irritation.

OSHA regulatory status: This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

Potential health effects:

Routes of exposure: Skin. Eyes. Ingestion. Inhalation.

Eyes: Causes eye irritation. Permanent eye damage or blindness could result.

Skin: Causes skin irritation.

Inhalation: Causes respiratory tract irritation.

Ingestion: Harmful if swallowed. Ingestion may cause dizziness, nausea and vomiting.

Target organs: Skin. Eyes. Respiratory tract.

Chronic effects: Inhalation of vapor or mist may cause lung edema.

Signs and symptoms: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Potential environmental effects: Harmful to aquatic organisms.

3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS #</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>40 - 60</td>
</tr>
<tr>
<td>Ammonium hydroxide</td>
<td>1336-21-6</td>
<td>25 -30</td>
</tr>
<tr>
<td>Potassium hydroxide</td>
<td>1310-58-3</td>
<td>20 - 30</td>
</tr>
<tr>
<td>Phosphoric acid</td>
<td>7664-38-2</td>
<td>2 - 10</td>
</tr>
<tr>
<td>Urea</td>
<td>57-13-6</td>
<td>1 - 5</td>
</tr>
</tbody>
</table>
Composition comments

Components will have dissociated into ions resulting in a product with a near neutral pH. All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

This Safety Data Sheet is not a guarantee of product specification or NPK value(s). NPK content is on specified sales orders, customer invoices, or product specification sheets obtained from supplier.

4. First Aid Measures

First aid procedures

Eye contact
Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

Skin contact
Immediately flush skin with plenty of water. Get medical attention if irritation develops and persists.

Inhalation
Move person to fresh air. If the affected person is not breathing, apply artificial respiration. Get medical attention immediately.

Ingestion
Rinse mouth thoroughly. Drink 1 or 2 glasses of water. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical attention.

Notes to physician
Treat symptomatically.

General advice
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

5. Fire Fighting Measures

Flammable properties
The product is not flammable.

Extinguishing media

Suitable extinguishing media

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.

Protection of firefighters

Specific hazards arising from the chemical
Heating may cause the release of ammonia vapors. NH3 (16-25%) may form flammable mixtures with air. If heated beyond dryness, some hydrogen sulfide gas may be given off.

Protective equipment and precautions for firefighters
Self-contained breathing apparatus and full protective clothing should be worn when fighting chemical fires. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.

Fire fighting equipment/instructions
Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk.

Specific methods
In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers.

Hazardous combustion products

6. Accidental Release Measures

Personal precautions
Avoid inhalation of vapors/spray and contact with skin and eyes. Ensure adequate ventilation. Wear suitable protective clothing. Use personal protection recommended in Section 8 of the MSDS.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not contaminate water. Do not allow to enter drains, sewers or watercourses.

Methods for containment
Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements or confined areas.

Methods for cleaning up
Absorb spillage with suitable absorbent material. After removal flush contaminated area thoroughly with water.

Never return spills to original containers for re-use.

7. Handling and Storage

Handling
Avoid inhalation of vapors/spray and contact with skin and eyes. Handle and open container with care. Use only with adequate ventilation. Keep the workplace clean. Use Personal Protective Equipment recommended in section 8 of the MSDS.
8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium hydroxide (CAS 1336-21-6)</td>
<td>STEL</td>
<td>35 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>25 ppm</td>
</tr>
</tbody>
</table>

U.S. - OSHA

<table>
<thead>
<tr>
<th>Components</th>
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<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium hydroxide (CAS 1336-21-6)</td>
<td>STEL</td>
<td>35 mg/m3</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>50 ppm</td>
</tr>
</tbody>
</table>

<table>
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<th>Value</th>
</tr>
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<td>STEL</td>
<td>35 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>27 mg/m3</td>
</tr>
</tbody>
</table>

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

<table>
<thead>
<tr>
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<tr>
<td></td>
<td>TWA</td>
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</tr>
</tbody>
</table>

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium hydroxide (CAS 1336-21-6)</td>
<td>STEL</td>
<td>35 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>25 ppm</td>
</tr>
</tbody>
</table>

Mexico. Occupational Exposure Limit Values

<table>
<thead>
<tr>
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<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium hydroxide (CAS 1336-21-6)</td>
<td>STEL</td>
<td>27 mg/m3</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>35 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>18 mg/m3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>25 ppm</td>
</tr>
</tbody>
</table>

Exposure guidelines

Follow standard monitoring procedures.

Engineering controls

Provide adequate general and local exhaust ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors and mists.

Personal protective equipment

Eye / face protection

Wear approved safety glasses or goggles.

Skin protection

Wear appropriate clothing to prevent repeated or prolonged skin contact. The use of neoprene gloves is recommended. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134. Seek advice from local supervisor.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Appearance

Clear. Translucent liquid.
Physical state: Liquid.
Form: Liquid.
Color: Clear.
Odor: Slight ammonia odor.
Odor threshold: Not available.
pH: 6.3 - 7
Vapor pressure: Not available.
Vapor density: Not available.
Boiling point: > 200 °F (> 93.3 °C)
Melting point/Freezing point: Not available.
Solubility (water): Completely soluble.
Specific gravity: 1.33 - 1.34
Flash point: Not available.
Flammability limits in air, upper, % by volume: Not available.
Flammability limits in air, lower, % by volume: Not available.
Auto-ignition temperature: Not available.

10. Chemical Stability & Reactivity Information

Chemical stability: Stable under normal temperature conditions.
Conditions to avoid: Heat. Extreme temperatures.
Incompatible materials: Strong acids. Reactive metals.
Possibility of hazardous reactions: Hazardous polymerization does not occur.

11. Toxicological Information

Toxicological data:

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium hydroxide (CAS 1336-21-6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>350 mg/kg</td>
</tr>
<tr>
<td>LD50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phosphoric acid (CAS 7664-38-2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>Rabbit</td>
<td>2740 mg/kg</td>
</tr>
<tr>
<td>LD50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>1530 mg/kg</td>
</tr>
<tr>
<td>LD50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potassium hydroxide (CAS 1310-58-3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>273 mg/kg</td>
</tr>
</tbody>
</table>

Sensitization: Not classified as a sensitizer.
Acute effects: Harmful if swallowed.
Local effects: Causes skin, eye and respiratory tract irritation.
Chronic effects: Inhalation of vapor or mist may cause lung edema.
Carcinogenicity: No data available.
Mutagenicity: No data available.
Reproductive effects: No data available.
Symptoms and target organs
Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Further information
No other specific acute or chronic health impact noted.

12. Ecological Information

Ecotoxicological data

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium hydroxide (CAS 1336-21-6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquatic</td>
<td>Fish</td>
<td>LC50 Western mosquitofish (Gambusia affinis) 15 mg/l, 96 hours</td>
</tr>
<tr>
<td>Phosphoric acid (CAS 7664-38-2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquatic</td>
<td>Fish</td>
<td>LC50 Mosquitofish (Gambusia) 138 mg/l, 96 h</td>
</tr>
<tr>
<td>Potassium hydroxide (CAS 1310-58-3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquatic</td>
<td>Fish</td>
<td>LC50 Western mosquitofish (Gambusia affinis) 80 mg/l, 96 hours</td>
</tr>
</tbody>
</table>

Ecotoxicity
Harmful to aquatic organisms.

Environmental effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Persistence and degradability
No data available.

Bioaccumulation / Accumulation
Not available.

Mobility in environmental media
The product is soluble in water.

13. Disposal Considerations

Disposal instructions
Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

Contaminated packaging
Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport Information

DOT
Not regulated as a hazardous material by DOT.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

TDG
Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration
Ammonium hydroxide (CAS 1336-21-6) 1.0 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance
Ammonium hydroxide (CAS 1336-21-6) Listed.

CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)
Ammonium hydroxide: 1000
Potassium hydroxide: 1000
Phosphoric acid: 5000
Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
- Immediate Hazard - Yes
- Delayed Hazard - Yes
- Fire Hazard - No
- Pressure Hazard - No
- Reactivity Hazard - No

Section 302 extremely hazardous substance (40 CFR 355, Appendix A)
No

Section 311/312 (40 CFR 370)
Yes

Drug Enforcement Administration (DEA) (21 CFR 1308.11-15)
Not controlled

Canadian regulations
This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS status
Controlled

WHMIS classification
D2B - Other Toxic Effects-TOXIC

Inventory status

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

* A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

State regulations
This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US - California Hazardous Substances (Director's): Listed substance
- Ammonium hydroxide (CAS 1336-21-6) Listed.
- Phosphoric acid (CAS 7664-38-2) Listed.
- Potassium hydroxide (CAS 1310-58-3) Listed.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance
Not listed.

US - New Jersey RTK - Substances: Listed substance
- Ammonium hydroxide (CAS 1336-21-6) Listed.
- Phosphoric acid (CAS 7664-38-2) Listed.
- Potassium hydroxide (CAS 1310-58-3) Listed.

US - Massachusetts RTK - Substance List
- Ammonium hydroxide (CAS 1336-21-6) Listed.
- Phosphoric acid (CAS 7664-38-2) Listed.
- Potassium hydroxide (CAS 1310-58-3) Listed.

US - New Jersey Worker and Community Right-to-Know Act
Not regulated.
US. Pennsylvania RTK - Hazardous Substances

Ammonium hydroxide (CAS 1336-21-6) Listed.
Phosphoric acid (CAS 7664-38-2) Listed.
Potassium hydroxide (CAS 1310-58-3) Listed.

Mexico regulations This safety data sheet was prepared in accordance with the Official Mexican Standard (NOM-018-STPS-2000).

16. Other Information

Recommended restrictions Use in accordance with supplier's recommendations.

Further information HMIS® is a registered trade and service mark of the NPCA.
A HMIS® Health rating including an * indicates a chronic hazard.

HMIS® ratings
- Health: 2*
- Flammability: 0
- Physical hazard: 0

NFPA ratings
- Health: 2
- Flammability: 0
- Instability: 0

Disclaimer NOTICE: The information presented herein is based on data considered to be accurate as of the date of preparation of this Safety Data Sheet (SDS) and was prepared pursuant to Government regulation(s) that identify specific types of information to be provided. This SDS may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, expressed or implied, is made as to the accuracy or comprehensiveness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. Additional information may be needed to evaluate other uses of the product, including use of the product in combination with any materials or in any processes other than those specifically referenced. Information provided herein with respect to any hazards that may be associated with the product is not meant to suggest that use of the product in a given application will necessarily result in any exposure or risk to workers or the general public. No responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product. Purchasers and users assume all risk of use, storage and handling of the product in compliance with applicable federal, state and local laws and regulations. Purchasers and users of the product specifically should advise all of their employees, agents, contractors and customers who will use the product of this (M)SDS.