SECTION 1: PRODUCT & COMPANY IDENTIFICATION

1.1 Product Identifiers

Product Description: Sodium Manganese Oxide powder

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Identified Uses: Cathode material; laboratory chemicals; R&D

1.3 Details of the Supplier of the Safety Data Sheet

Company: NEI Corporation
Address: 400 Apgar Drive, Unit E – Somerset, NJ 08873 – United States of America
Phone: +1 (732) 868-3141
Fax: +1 (732) 868-3143
Email: productinfo@neicorporation.com

1.4 Emergency Telephone Numbers

Manufacturer: +1 (732) 868-3142 (9am to 6pm EST / UTC -0500)
U.S. Poison Control Center: +1-800-222-1222

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

The chemical, physical, and toxicological properties of this product have not been thoroughly investigated.

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Not a hazardous substance or mixture

2.2 GHS Label elements, including precautionary statements

Not a hazardous substance or mixture

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

None

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

<table>
<thead>
<tr>
<th>Component Name</th>
<th>Synonyms</th>
<th>Formula</th>
<th>CAS #</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Manganese Oxide</td>
<td>NMO, NaMnO</td>
<td>( \text{Na}<em>0.7\text{MnO}</em>{2+\delta} )</td>
<td>n/a (not assigned)</td>
<td>( \leq 100% )</td>
</tr>
</tbody>
</table>

SECTION 4: FIRST AID MEASURES

4.1 Description of First Aid Measures

General Advice:
Move out of exposed area. Seek medical attention if irritation occurs. Show this SDS to the doctor in attendance.

After Inhalation:
If breathed in, move person into fresh air. If not breathing, give artificial respiration and seek medical attention.

After Skin Contact:
Wash off with soap and plenty of water, as a precaution.

After Eye Contact:
Flush eyes with water, as a precaution.

After Swallowing:
Never give anything by mouth to an unconscious person. Rinse mouth with water and consult a physician.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and in section 11.
4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed
Chronic exposure to manganese may cause impairment to the central nervous system. Early symptoms include languor, sleepiness, and muscle weakness. If symptoms or irritation occurs, seek medical attention.

SECTION 5: FIREFIGHTING MEASURES

5.1 Suitable Extinguishing Media
Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

5.2 Special Hazards Arising from the Substance or Mixture
Sodium oxides, manganese oxides

5.3 Advice for Firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Other Information
No Data Available

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment, and Emergency Procedures
Avoid dust formation. Avoid breathing vapors, mist or gas.

6.2 Environmental Precautions
Do not let product enter drains.

6.3 Methods and Materials for Containment and Cleaning Up
Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to Other Sections
For safe handling, see Section 7; for personal protection, see Section 8; for disposal, see Section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for Safe Handling
Appropriate personal protective equipment should be used at all times. Provide appropriate exhaust ventilation at places where dust is formed.

7.2 Conditions for Safe Storage (including any incompatibilities)
Keep container tightly closed in a dry and well-ventilated place.

7.3 Specific End Uses
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters
Occupational exposure limit values are unknown for this product.

8.2 Exposure Controls
Appropriate Engineering Controls
Handle in accordance with good industrial hygiene and safety practice. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Personal Protective Equipment
Eye / Face Protection:
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Skin Protection:
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection:
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Respiratory Protection:
Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of Environmental Exposure
Prevent further leakage or spillage if safe to do so. Discharge into the environment should be avoided. Do not let product enter drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical and Chemical Properties
- Physical State: Solid (powder)
- Color: Light grey
- Odor: No Data Available
- Odor Threshold: No Data Available
- pH: No Data Available
- Melting Point / Range: No Data Available
- Boiling Point / Range: No Data Available
- Flash Point: No Data Available
- Evaporation Rate: No Data Available
- Flammability: No Data Available
- Upper Explosion Limit: No Data Available
- Lower Explosion Limit: No Data Available
- Vapor Pressure: No Data Available
- Vapor Density: No Data Available
- Relative Density: No Data Available
- Water Solubility: No Data Available
- Partition Coefficient: No Data Available
- Auto-ignition Temperature: No Data Available
- Decomposition Temperature: No Data Available
- Viscosity: No Data Available

9.2 Other Safety Information
None

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity
No Data Available

10.2 Chemical Stability
Stable under recommended storage conditions

10.3 Possibility of Hazardous Reactions
No Data Available
10.4 Conditions to Avoid
No Data Available

10.5 Incompatible Materials
No Data Available

10.6 Hazardous Decomposition Products
In event of fire: Sodium oxides, manganese oxides (no other data available)

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects

Acute Toxicity
- Oral LD50: No Data Available
- Inhalation LC50: No Data Available
- Dermal LD50: No Data Available

Skin corrosion/irritation
No Data Available

Serious eye damage/eye irritation
No Data Available

Respiratory or skin sensitization
No Data Available

Germ cell mutagenicity
No Data Available

Carcinogenicity
- IARC: No component of this product, present at levels greater than or equal to 0.1%, is identified as a probable, possible, or confirmed human carcinogen by IARC.
- ACGIH: No component of this product, present at levels greater than or equal to 0.1%, is identified as a carcinogen or potential carcinogen by ACGIH.
- NTP: No component of this product, present at levels greater than or equal to 0.1%, is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product, present at levels greater than or equal to 0.1%, is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
No Data Available

Teratogenicity
No Data Available

Specific target organ toxicity - single exposure (Globally Harmonized System)
No Data Available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
No Data Available

Aspiration hazard
No Data Available

Additional Information
Chronic exposure to manganese may cause impairment to the central nervous system. Early symptoms include languor, sleepiness and weakness in the legs. More advanced cases may cause a stolid, mask-like appearance of the face, emotional disturbances (such as uncontrollable laughter), and/or a spastic gait with a tendency to fall while walking. A high incidence of pneumonia has been found in workers exposed to the dust or fume of some manganese compounds. Men exposed to manganese dusts showed a decrease in fertility.

The chemical, physical, and toxicological properties of this product have not been thoroughly investigated.
SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity
No Data Available

12.2 Persistence and Degradability
No Data Available

12.3 Bioaccumulative Potential
No Data Available

12.4 Mobility in Soil
No Data Available

12.5 PBT and vPvB Assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other Adverse Effects
No Data Available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods – Product
Offer surplus and non-recyclable solutions to a licensed disposal company.

13.2 Waste Treatment Methods – Contaminated Packaging
Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

14.1 Department of Transportation (DOT - US)
Not dangerous goods

14.2 International Maritime Dangerous Goods (IMDG)
Not dangerous goods

14.3 International Air Transport Association (IATA)
Not dangerous goods

14.4 Additional Transport Information
HS Classification #: 2820.90
Schedule B #: 2820.90.0000

SECTION 15: REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
No Data Available

CALIFORNIA PROPOSITION 65
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

15.2 Chemical Safety Assessment
A chemical safety assessment was not carried out for this product.
SECTION 16: OTHER INFORMATION

REACH Number
A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

Further Information
NEI has attempted to provide current and accurate information to the best of its knowledge. NEI makes no representations regarding the accuracy or completeness of the information and assumes no liability for any loss, damage, injury of any kind which may result from or arise out of the use of or reliance on the information by any person. Employers should use this information only as a supplement to other information gathered by them and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

- END OF MSDS -