



Date of Issue: 10/08/10

Nanomyte™ SP-15

Material Safety Datasheet

Identity / Ingredients Information	
Chemical name & composition:	Lithium Manganese Nickel Oxide
Percent:	99.95%
CAS Number:	39457-42-6
EINECS Number:	No data
OSHA PEL:	1 mg/m ³ (as Ni); 5 mg/m ³ Ceiling (as Mn)
ACGIH TLV:	0.2 mg/m ³ (as Ni, inhalable fraction)
Proprietary:	Yes

Physical / Chemical Characteristics	
Appearance and Odor:	Black, odorless powder
Melting Point/Melting range:	> 1000°C
Specific Gravity:	4.45 g/cm ³
Solubility in Water:	Insoluble

Fire and Explosion Hazard Data	
Flash Point:	Not applicable
Lower Explosive Limit:	Not applicable
Upper Explosive Limit:	Not applicable
Suitable Extinguishing Agents:	Dry chemical, water mist, carbon dioxide, foam
Fire fighting protective equipment:	Wear full protective clothing and self-contained breathing apparatus approved for fire fighting. Do not breathe smoke, gases or vapors generated.

Reactivity Data	
Stability Data:	Stable
Conditions/Hazards to Avoid:	Avoid contact with easily oxidizable materials and flammable materials.
Materials to Avoid:	Avoid contact with acids, alkalis, easily oxidizable materials, organic, or other combustible materials which may result in ignition.
Hazardous Decomposition Products:	Metal oxide fumes.

Precautions for Safe Handling and Use	
Person-Related Safety Precautions:	Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation.
Safe Handling:	Ensure good ventilation at the workplace.
Storage Requirements & Conditions:	Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Keep away from sources of ignition.

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Health Hazard Data	
ACGIH:	(A1) Confirmed human carcinogen
Primary irritant effect on the skin:	May cause skin irritation and/or an allergic skin reaction. NICKEL dermatitis, referred to as "nickel itch", may include an itching or burning sensation & sores
Primary irritant effect on the eye:	May be irritating to the eyes
Inhalation Effect:	May be irritating to the nose, mucous membranes and respiratory system. Sensitive individuals may develop asthma, bronchitis, shortness of breath or wheezing.
Ingestion Effect:	Harmful if swallowed. May cause pain, nausea, vomiting and diarrhea. May cause headache and/or dizziness.
Chronic Health Hazards:	May cause lung damage, liver and kidney damage, nasal ulcerations, & impairment of smell. May affect the heart and cardiovascular system. Prolonged or repeated exposure may cause MANGANESE poisoning (a Parkinsonian-like syndrome characterized by anorexia, hypersomnia, loss of strength, spasms or pain in the muscles, possibly followed by uncontrollable behavior, hallucinations and confusion).

Precautions for Safe Handling and Use	
Person-Related Safety Precautions:	Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation.
Safe Handling:	Ensure good ventilation at the workplace.
Storage Requirements & Conditions:	Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Keep away from sources of ignition.

Accidental Release Measures	
Steps if material released/spilled:	Contain spillage. Scoop up or vacuum into a container for reclamation or disposal. Avoid dusting.
Measures for Environmental Protection:	Do not allow material to be released to the environment without proper governmental permits.
Measures for Cleaning/Collecting:	Dispose contaminated material as waste according to section on disposal data. Ensure adequate ventilation

First Aid Measures	
After Inhalation:	Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice.
After Skin Contact:	Immediately wash with water and soap and rinse thoroughly.
After Eye Contact:	Rinse opened eye for several minutes under running water. Then consult a doctor.
After Swallowing:	Seek immediate medical advice.
The Following Symptoms May Occur:	Gastric or intestinal disorders; coughing; breathing difficulty

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Exposure Controls and Personal Protection	
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.
General Protective and Hygienic Measures:	The usual precautionary measures for handling chemicals should be followed. Keep away from foodstuffs, beverages and feed. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work.
Breathing Equipment:	Use suitable respirator when high concentrations are present.
Personal Protective Equipment:	Wear safety glasses or goggles to protect against exposure. Rubber or neoprene gloves. Wear clean, protective body-covering clothing.

Transportation Data	
US Transportation Regulations:	UN/NA/PIN Number: UN1479 DOT Classification: 5.1 Oxidizer Proper Shipping Name: Oxidizing solid, n.o.s. (Contains Lithium Nickel Manganese Oxide) Packing Group/Exceptions: III
International Transport Regulations:	ICAO UN/ID No: UN1479 ICAO Class: 5.1 Proper shipping name: Oxidizing solid, n.o.s. (Contains Lithium Nickel Manganese Oxide) ICAO Packing Group: III Packing Instruction: 516/518 IMO UN No: UN1479 IMO Class: 5.1 IMO Proper shipping name: Oxidizing solid, n.o.s. (Contains Lithium Nickel Manganese Oxide) Packing Group: III EmS No.: F-A,S-Q

Regulations	
Hazard Symbols:	Xn Harmful
Risk Phrases:	20 - harmful by inhalation; 37 - irritating to respiratory system.
Safety Phrases:	22 - do not breathe dust; 36 - wear suitable protective clothing; 38 - in case of insufficient ventilation, wear suitable respiratory equipment.
Limitation of Use:	For use only by technically qualified individuals.
Other Information:	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 Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

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Disposal Data	
Disposal Recommendations - Product:	Consult state, local or national regulations for proper disposal.
Disposal Recommendations - Unclean Packaging:	Disposal must be made according to official regulations.

Ecological Information
Do not allow material to be released to the environment without proper governmental permits.

NEI has attempted to provide current and accurate information to the best of our 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.

END OF MSDS