

# MATERIAL SAFETY DATA SHEET

## Magnetite Nanoparticle Powder (MGPD)

Manufacturer: nanoComposix, Inc.  
4878 Ronson CT STE K  
San Diego, CA 92111-1806

NANOCOMPOSIX CUSTOMER SERVICE: (858) 565-4227  
CHEMTREC (EMERGENCY ONLY): (800) 424-9300  
POISON CENTER: (800) 562-8236

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### SECTION 1 Product Identification

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**CHEMICAL NAME:** Magnetite

**CAS REGISTRY NUMBER:** 1317-61-9 (Triiron tetraoxide)

**FORMULA:** Fe<sub>3</sub>O<sub>4</sub>

**EINECS NUMBER:** NA (See components)

**CHEMICAL FAMILY:** metal composite

**SYNONYM:** Magnetic nanoparticles, magnetite nanoparticles, magnetic iron oxide nanoparticles, magnetic iron oxide nanoparticle powder.

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### SECTION 2 Composition and Information on Ingredients

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INGREDIENTS;	CAS #	% by Mass	Hazardous
Magnetite	1317-61-9	1.5-2.5%	No
PVP	9003-39-8	Trace	No
Sodium Citrate Dihydrate	6132-04-3	5.8x10 <sup>-5</sup>	No

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### SECTION 3 Hazards Identification

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#### EMERGENCY OVERVIEW:

**OSHA Hazards:** Target Organ Effect

**Target Organs:** Kidney, Liver. Not a dangerous substance or mixture according to the Globally Harmonised System (GHS)

#### HMIS CLASSIFICATION

Health Hazard: 0

Flammability: 0

Physical Hazards: 0

#### NFPA RATING

Health Hazard: 0

Fire: 0

Reactivity Hazard: 0

**APPEARANCE:** Black/Brown solid, film

**PRIMARY ROUTES OF EXPOSURE:** Inhalation, ingestion, dermal contact.

**EYE CONTACT:** Can cause transient eye irritation.

**SKIN CONTACT:** May be harmful if absorbed through skin. Can cause transient skin irritation.

**INHALATION:** May be harmful to the respiratory tract and lungs if dust is inhaled.

**INGESTION:** NAIF. May be harmful if ingested.

**ACUTE HEALTH EFFECTS:** May be irritating to skin, eyes and digestive tract. Prolonged exposure to dust/mist can produce pneumoconiosis.

**CHRONIC HEALTH EFFECTS:** Repeated and prolonged exposures have not been studied.

**AGGRAVATION of PRE-EXISTING CONDITIONS:** Prolonged inhalation of dust can increase lung injury in individuals with emphysema, asthma or other lung disorders.

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## SECTION 4 First Aid Measures

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**EYE EXPOSURE:** Remove contacts if present. Immediately flush the eyes with water for at least 10-15 minutes. Seek medical attention if irritation persists.

**SKIN EXPOSURE:** Wash the affected area with soap and water. Remove contaminated clothes if necessary. Seek medical assistance if irritation persists.

**INHALATION:** If breathed in, move person to fresh air. Treat symptoms. If not breathing, give artificial respiration. Seek medical attention if necessary.

**INGESTION:** Do NOT induce vomiting. If the person is conscious, rinse their mouth out with water and give water. Never give anything by mouth to an unconscious person.

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## SECTION 5 Fire Fighting Measures

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**FLASH POINT:** Not applicable.

**AUTO IGNITION TEMPERATURE:** Not applicable.

**EXPLOSION LIMITS:** Not applicable.

**EXTINGUISHING MEDIUM:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**SPECIAL FIRE FIGHTING PROCEDURES:** Wear self contained breathing apparatus for fire fighting if necessary.

**HAZARDOUS COMBUSTION AND DECOMPOSITION PRODUCTS:** None.

**UNUSUAL FIRE OR EXPLOSION HAZARDS:** None.

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## SECTION 6 Accidental Release Measures

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**SPILL AND LEAK PROCEDURES:** Small spills can be swept up or diluted flushed with water to dilute according to local, state, and federal disposal guidelines. Solid surface should be wiped with a detergent-based cleaner to clean any remaining materials.

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## SECTION 7 Handling and Storage

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**HANDLING:** Use in well ventilated areas. Observe good housekeeping practices.

**STORAGE:** Keep container closed when not in use.

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## SECTION 8 Exposure Controls and Personal Protection

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**EYE PROTECTION:** Always wear approved safety glasses or chemical splash goggles when handling a chemical substance in the laboratory.

**SKIN PROTECTION:** Wear protective clothing and gloves.

**VENTILATION:** Recommended to use in fume hood or well ventilated area to avoid inhalation

**RESPIRATOR:** Use face mask or respirator to protect from inhalation.

**ADDITIONAL PROTECTION:** No additional protection required. Eyewash, safety shower, and impervious clothing are recommended.

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## SECTION 9 Physical and Chemical Properties

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<b>FORM:</b>	Solid, film
<b>COLOR:</b>	Brown/Black
<b>MOLECULAR WEIGHT:</b>	231.53 g/mol.
<b>MELTING POINT (°C):</b>	No data Available.
<b>BOILING POINT (°C):</b>	No data available.
<b>VAPOR PRESSURE:</b>	No data available.
<b>DENSITY:</b>	No data available.
<b>ODOR:</b>	No data available.
<b>SOLUBILITY IN WATER:</b>	Completely.

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## SECTION 10 Stability and Reactivity

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**STABILITY:** Stable under recommended storage conditions.

**POSSIBILITY OF HAZARDOUS REACTIONS:** Avoid contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) which can generate heat, splattering or boiling and the release of toxic fumes. Avoid contact with aluminum.

**CONDITIONS TO AVOID:** No data available.

**MATERIALS TO AVOID:** No data available.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Iron oxides

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## SECTION 11 Toxicological Information

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### ACUTE TOXICITY

**Oral LD50:** No data available.

**Inhalation LD50:** No data available.

**Dermal LD50:** No data available.

**Other information on acute toxicity:** No data available.

**SKIN CORROSION/IRRITATION:** No data available.

**SERIOUS EYE DAMAGE/IRRITATION** No data available.

<b>RESPIRATORY OR SKIN SENSITIZATION</b>	No data available.
<b>GERM CELL MUTAGENICITY</b>	No data available.
<b>CARCINOGENICITY</b>	
<b>IARC:</b>	No component of this product is identified as a probable or confirmed human carcinogen by IARC.
<b>ACGIH:</b>	No component of this product is identified as a probable or confirmed human carcinogen by ACGIH.
<b>NTP:</b>	No component of this product is identified as a probable or confirmed human carcinogen by NTP.
<b>OSHA:</b>	No component of this product is identified as a probable or confirmed human carcinogen by OSHA.
<b>REPRODUCTIVE TOXICITY:</b>	No data available
<b>TERATOGENICITY:</b>	No data available
<b>SPECIFIC TARGET ORGAN TOXICITY</b>	No data available
<b>ASPIRATION HAZARD</b>	No data available
<b>POTENTIAL HEALTH EFFECTS</b>	
<b>Inhalation:</b>	May be harmful if inhaled.
<b>Ingestion:</b>	May be harmful if swallowed.
<b>Skin:</b>	May be harmful if absorbed through skin. Causes skin burns.
<b>Eyes:</b>	Causes eye burns..
<b>SYNERGISTIC EFFECTS:</b>	No data available.
<b>ADDITIONAL INFORMATION:</b>	RTECS note available.

## SECTION 12 Ecological Information

<b>TOXICITY</b>	No data available.
<b>PERSISTANCE AND DEGRADABILITY:</b>	No data available.
<b>BIOACCUMULATIVE POTENTIAL:</b>	No data available.
<b>MOBILITY IN SOIL:</b>	No data available.
<b>PBT AND vPvB ASSESSMENT:</b>	No data available.
<b>OTHER ADVERSE EFFECTS:</b>	No data available.

## SECTION 13 Disposal Considerations

**DISPOSAL:** Dispose of according to local, state and federal regulations. If this product becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA 40 CFR 261). As a non-hazardous liquid waste, it should be solidified with stabilizing agents (such as sand, fly ash or cement) so that no free liquid remains before disposal to an industrial waste landfill. A non-hazardous liquid waste can also be deep-well injected in accordance with Federal, State and Local regulations.

## SECTION 14 Transportation Information

This product is not regulated by DOT or IATA.

**DOT (US):** Not dangerous goods.

**IMDG:** Not dangerous goods.  
**IATA:** Not dangerous goods.  
**SHIPPING NAME (CFR):** Non-hazardous.  
**SHIPPING NAME (IATA):** Non-hazardous.

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## SECTION 15 Regulatory Information

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**OSHA HAZARDS:** Target Organ Effect.

**DSL STATUS:** All components of this product are on the Canadian DSL list

**TOXIC SUBSTANCE CONTROL ACT:** The chemical ingredients in this product are on the 8 (b) Inventory List (40 CFR 710).

**CERCLA/SUPERFUND, 40 CFR 117,302:** Notification of spills of this product is not required.

**CANADIAN WHMIS:** This is a controlled product under The House of Commons of Canada Bill C-71 (Class D2B)

**SARA 302 COMPONENTS:** No chemicals in this material are subject the reporting requirements of SARA Section 302.

**SARA 313 COMPONENTS:** SARA 313: 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:** Acute Health Hazard, Chronic Health Hazard

### MA RIGHT TO KNOW COMPONENTS:

INGREDIENTS;	CAS #	% by Mass	Hazardous
Magnetite	1317-61-9	1.5-2.5%	No
PVP	9003-39-8	Trace	No
Sodium Citrate Dihydrate	6132-04-3	5.8x10 <sup>-5</sup>	No

### PA RIGHT TO KNOW COMPONENTS:

INGREDIENTS;	CAS #	% by Mass	Hazardous
Magnetite	1317-61-9	1.5-2.5%	No
PVP	9003-39-8	Trace	No
Sodium Citrate Dihydrate	6132-04-3	5.8x10 <sup>-5</sup>	No

### NJ RIGHT TO NOW COMPONENTS

INGREDIENTS;	CAS #	% by Mass	Hazardous
Magnetite	1317-61-9	1.5-2.5%	No
PVP	9003-39-8	Trace	No
Sodium Citrate Dihydrate	6132-04-3	5.8x10 <sup>-5</sup>	No

**CA PROP 65 COMPONENTS:** This product does not contain any chemicals known to the State of CA to cause cancer, birth defects, or any other reproductive harm.

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## SECTION 16 Other Information

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**DISCLAIMER:** The information herein is believed to be accurate and reliable as of the date compiled but does not purport to be all inclusive and shall be used only as a guide. nanoComposix, Inc. makes no representation, warranty, or guarantee of any kind with respect to the information contained in this document or any use of the product based on this information.

**PREPARATION DATE:** 9/05/2013

**REVISION DATE:** N/A