

MATERIAL SAFETY DATA SHEET

Magnetite Nanoparticles (MGPN)

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

NANOCOMPOSIX CUSTOMER SERVICE:
CHEMTREC (EMERGENCY ONLY):
POISON CENTER:

(858) 565-4227
(800) 424-9300
(800) 562-8236

SECTION 1 Product Identification

CHEMICAL NAME: Magnetite

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

FORMULA: Fe₃O₄

EINECS NUMBER: NA (See components)

CHEMICAL FAMILY: metal composite

SYNONYM: Magnetic nanoparticles, magnetite nanoparticles, magnetic iron oxide nanoparticles,

SECTION 2 Composition and Information on Ingredients

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 ⁻⁵	No
Water	231-791-2	97.5-98.5%	No

SECTION 3 Hazards Identification

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 liquid

PRIMARY ROUTES OF EXPOSURE: 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.

SECTION 4 First Aid Measures

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.

SECTION 5 Fire Fighting Measures

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.

SECTION 6 Accidental Release Measures

SPILL AND LEAK PROCEDURES: Dike to prevent further movement. Contain with absorbent material such as clay, soil or any commercially available absorbent. Shovel reclaimed liquid and absorbent into recovery or salvage drums for disposal. 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.

SECTION 7 Handling and Storage

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

STORAGE: Keep container closed when not in use.

SECTION 8 Exposure Controls and Personal Protection

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: General ventilation recommended.

RESPIRATOR: Respiratory protection is not normally needed since volatility and toxicity are low. If significant mists are generated, use either chemical cartridge respirator with a dust/mist prefilter or supplied air.

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

SECTION 9 Physical and Chemical Properties

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

SECTION 10 Stability and Reactivity

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

SECTION 11 Toxicological Information

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

SECTION 12 Ecological Information

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

SECTION 15 Regulatory Information

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 ⁻⁵	No
Water	231-791-2	97.5-98.5%	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 ⁻⁵	No
Water	231-791-2	97.5-98.5%	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 ⁻⁵	No
Water	231-791-2	97.5-98.5%	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.

SECTION 16 Other Information

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: 8/28/2013

REVISION DATE: N/A