

# Nano Technology Inc.

## [ Material Safety Data Sheet ]

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Version 2.2

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### Section 1 – Identification of the Substance/Mixture and of the Company/Undertaking

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Product Name	CealDoctor EMD (Self-healing engine treatment)
Company	Nano Technology Inc.
Street Address	290-19 Daewha-dong
City, State, Zip, Country	Daedeok-gu, Daejeon, 306-801, Korea
Technical Phone	+82-42-862-0673
Emergency Phone	+82-42-862-0673
Fax	+82-42-710-9210

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### Section 2 – Hazards Identification

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GHS Classification : NOT HAZARDOUS,

GHS Label Elements

Symbol(s) :

No symbol

Signal Words : No signal word

Hazard Statement : PHYSICAL HAZARDS:

Not classified as a physical hazard under GHS criteria.

HEALTH HAZARDS:

Not classified as a health hazard under GHS criteria.

ENVIRONMENTAL HAZARDS:

Not classified as an environmental hazard under GHS criteria.

GHS Precautionary Statements

Prevention : No precautionary phrases.

Response : No precautionary phrases.

Storage : No precautionary phrases.

Disposal: No precautionary phrases.  
Other Hazards: Not classified as flammable but will burn.  
Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil

NFPA Hazard ID: Health: 0 Flammability: 1 Reactivity: 0  
HMIS Hazard ID: Health: 0 Flammability: 1 Reactivity: 0

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### Section 3 – Composition/Information on Ingredient

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INGREDIENT	CAS No.	CONCENTRATION(%)
Distillate, Hydrotreated Heavy Paraffinic	64742-54-7	58.0 – 70.0
Residual Oils, Hydrotreated (petroleum)	64742-57-0	5.0 – 15.0
Cu-Ni Alloy powder	7440-50-8/7440-02-0	3.0 – 7.0
Additive	Proprietary Mixture	5.0 – 12.0

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### Section 4 – First Aid Measures

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#### INHALATION :

No significant adverse health effects are expected to occur upon short-term exposure.

#### SKIN CONTACT :

This product can cause transient mild eye irritation with short-term contact with liquid sprays or mists.

#### EYE CONTACT :

Rinse immediately with plenty of water until irritation subsides. If irritation persists, obtain medical advice.

#### INGESTION :

If swallowed, DO NOT induce vomiting : keep at rest and call a physician..

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### Section 5 – Fire Fighting Measures

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#### FLAMMABILITY PROPERTIES

Flash Point [Method]: >260°C (500°F) [ASTM D-92]  
Autoignition Temperature: N/D  
Flammable Limits (Approximate volume % in air): N/D  
Product Combution: Carbon oxides(Co, CO<sub>2</sub>), sulfur oxides(SO<sub>2</sub>, SO<sub>3</sub>)

#### CLASSIFICATION UNDER THE LAW OF SAFETY MANAGEMENT OF DANGEROUS SUBSTANCES

Category 4. Class 4 petroleum chemicals

## EXTINGUISHING MEDIA

### Appropriate Extinguishing Media:

Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames.

### Fire Fighting Instructions:

Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

### Unusual Fire Hazards: None

### Hazardous Combustion Products:

Smoke, Fume, Aldehydes, Sulfur oxides, Incomplete combustion products, Oxides of carbon

### Inappropriate Extinguishing Media:

Straight Streams of Water.

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## Section 6 – Accidental Release Measures

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### LAND SPILL :

Shut off source taking normal safety precautions. Prevent liquid from entering sewers, water courses or low lying areas : advise the relevant authorities if it has, or if it contaminates soil / vegetation. Take measure minimize the effects on ground water. Recover by skimming or pumping using explosion-proof equipment, or contain spilled liquid with booms, sand, or other suitable absorbent and remove mechanically into containers. If necessary, dispose of adsorbed residues as directed in Section 13.

### WATER SPILL :

Confine the spill immediately with booms. Warn other shipping. Notify port and other relevant authorities. Remove from the surface by skimming or with suitable absorbents. Disperse the residue in confined waters, if permitted by local authorities and environmental agencies.

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## Section 7 – Handling and Storage

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Store the product in cool, well ventilated surroundings, well away from sources of ignition. Provide suitable mechanical equipment for the safe handling of drums and heavy packages. Electrical equipment and fittings must comply with local regulations regarding fire prevention with this class of product.

LOAD / UNLOAD TEMPERATURE deg.°C : Ambient to max. 60°C

STORAGE TEMPERATURE deg.°C : Ambient to max. 60°C

### SPECIAL PRECAUTIONS :

Take extreme care to avoid contamination by other products and materials. Keep containers closed when not in use. Prevent small spills and leakage to avoid slip hazard.

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**Section 8 – Exposure control and personal protection**

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**Engineering Controls**

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of mists and/or vapors below the recommended exposure limits (see below). An eye wash station and safety shower should be located near the work-station.

**Personal Protective**

Personal protective equipment should be selected based upon the conditions under which this Equipment material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to OSHA regulations. The following pictograms represent the minimum requirements for personal protective equipment. For certain operations, additional PPE may be required.



**Eye Protection**

Safety glasses equipped with side shields are recommended as minimum protection in industrial settings. Wear goggles and/or face shield if splashing or spraying is anticipated. Wear goggles and face shield if material is heated above 125°F (51°C). Have suitable eye wash water available.

**Hand Protection**

Use gloves constructed of chemical resistant materials such as neoprene or heavy nitrile rubber if frequent or prolonged contact is expected. Use heat-protective gloves when handling product at elevated temperatures.

In open systems where contact is likely, wear safety goggles, chemical-resistant overalls, and chemically impervious gloves. Where only incidental contact is likely, wear safety glasses with side shields. No other special precautions are necessary provided skin / eye contact is avoided. When concentrations in air may exceed the occupational exposure limit, and where engineering, work practices, or other means of exposure reduction are not adequate, approved respirators may be required.

Exposure limits in the air of workplace, biological limit values :

DISTILLATES (PETROLEUM), HYDROTREATED HEAVY

Country	Source	Type	Value
USA	OSHA	PEL(8hr)	5 mg/m <sup>3</sup>
USA	ACGIH	TWA(8hr)	5 mg/m <sup>3</sup> , STEL 10mg/m <sup>3</sup>

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**Section 9 – Physical/Chemical Properties**

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Appearance / Odor :	Dark liquid, mild petroleum odor.
Specific Gravity :	0.85~ 0.86 @15/4°C
Viscosity :	12.5 ~ 16.3 cSt @100°C
Solubility in water :	Negligible @20°C
pH :	Not applicable
Flash point :	>260°C (COC Method)

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**Section 10 – Stability and Reactivity**

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Stability (Thermal, Light, etc) : Stable

CONDITION TO AVOID :

Keep away from heat sources, open flames and other sources of ignition.

INCOMPATIBLE MATERIALS :

Avoid contact with strong oxidants such as liquid chlorine and concentrated oxygen.

HAZARDOUS DECOMPOSITION PRODUCTS :

Product does not decompose at ambient temperature.

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**Section 11 – Toxicological Information**

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EFFECTS OF OVER EXPOSURE :

INHALATION :

Negligible hazard at ambient / normal handling temperatures. Elevated temperatures or mechanical action may form vapors, mists, or fumes which may be irritating to the eyes, nose, throat, and lungs. Avoid breathing vapors, mists, or fumes.

SKIN CONTACT :

Low order of acute toxicity. Prolonged or repeated contact may lead to mild skin irritation.

EYE CONTACT : Slightly irritating, but does not injure eye tissue.

INGESTION : Low order of acute / systemic toxicity.

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**Section 12 – Ecological Information**

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In the absence of specific environmental data for this product, this assessment is based on information for general hydrocarbon components found in lubricant mineral oils. Lubricant mineral oils, immediately following a release into the environment, will remain largely on the soil surface, and in water, will remain largely on the water surface. Based on chemical / physical information from the literature for this product category, no harmful effects to terrestrial or aquatic habitats would be expected. This product is expected to be resistant to biodegradation and to persist in the environment. This product may contain additives for which no environmental data is available. Hence, the above assessment concerns the base oil(s) only.

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### **Section 13 – Disposal Considerations**

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Collect and dispose of waste product at an authorized disposal facility, in conformance with national and local regulations on the disposal of waste oil.

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### **Section 14 – Transport Information**

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REGULATION ON SHIP-TRANSPORTATION AND STORAGE OF DANGEROUS SUBSTANCES  
(SEA (IMDG))

Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

CAUTIONS FOR TRANSPORT: Not applicable

INTERNATIONAL CLASSIFICATION AND RESTRICTIONS

LAND : Not Regulated for Land Transport

AIR (IATA): Not Regulated for Air Transport

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### **Section 15 – Regulatory Information**

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Safety, health and environmental regulations specific for the product in question:

Industrial Safety Health Law(Korea): Chapter 41

EU Classification and Labelling information

Classification: Carc.Cat.2: R45

Symbol(s) and Indication(s) of Danger : T - Toxic

Risk Phrases: R45: May cause cancer.

Safety Phrases

S53: Avoid exposure - obtain special instructions before use.

S45: In case of accident or if you feel unwell, seek medical advice immediately(show the label where possible).

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### **Section 16 – Other Information**

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References and sources for data

Nano Technology Inc. R&D Center

Korea Occupational Safety & Health Agency

United States National Library of Medicine.

EINECS (European Inventory of Existing Commercial chemical Substances)

IARC(International Agency for Reserch on Cancer.)

NIOSH (The National Institute for Occupational Safety and Health)

ACGIH (American Conference of Governmental Industrial Hygienists.)

IUCLID Dataset

MSDS of raw material from supplier