

**NANOLAB, INC.**  
55 CHAPEL ST.  
NEWTON, MA 02458 USA  
PHONE (617) 581-6747  
FAX (617) 581-6749  
www.nano-lab.com

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Revision no. 2

## MATERIAL SAFETY DATA SHEET

### **SECTION 1. ----- CHEMICAL IDENTIFICATION-----**

NAME: CARBON NANOTUBES, MULTI-WALL

### **SECTION 2. ----- COMPOSITION/INFORMATION ON INGREDIENTS -----**

A CAS NUMBER HAS NOT BEEN ASSIGNED TO CARBON NANOTUBES AS OF MAY 8, 2009.

### **SECTION 3. ----- HAZARDS IDENTIFICATION -----**

LABEL PRECAUTIONARY STATEMENTS IRRITANT IRRITATING TO EYES AND RESPIRATORY SYSTEM. IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE. WEAR SUITABLE PROTECTIVE CLOTHING.

### **SECTION 4. ----- FIRST-AID MEASURES-----**

IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN. IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS AMOUNTS OF WATER. IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES.

### **SECTION 5. ----- FIRE FIGHTING MEASURES -----**

EXTINGUISHING MEDIA WATER SPRAY. CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM. SPECIAL FIREFIGHTING PROCEDURES WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES. COMBUSTION PRODUCTS INCLUDE OXIDES OF CARBON.

### **SECTION 6. ----- ACCIDENTAL RELEASE MEASURES-----**

WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, AND RUBBER GLOVES. SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL. AVOID RAISING DUST. VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

### **SECTION 7. ----- HANDLING AND STORAGE-----**

**HANDLING:** USE WITH ADEQUATE VENTILATION. AVOID CONTACT WITH EYES, SKIN AND CLOTHING. AVOID INGESTION AND INHALATION.

**STORE:** IN A TIGHTLY CLOSED CONTAINER.

### **SECTION 8. ----- EXPOSURE CONTROLS/PERSONAL PROTECTION-----**

SAFETY SHOWER AND EYE BATH. MECHANICAL EXHAUST REQUIRED. WASH THOROUGHLY AFTER HANDLING. DO NOT BREATHE DUST. AVOID CONTACT WITH EYES, SKIN AND CLOTHING. AVOID PROLONGED OR REPEATED EXPOSURE. NIOSH/MSHA-APPROVED RESPIRATOR. COMPATIBLE CHEMICAL-RESISTANT GLOVES. CHEMICAL SAFETY GOGGLES. KEEP TIGHTLY CLOSED. OSHA PERMISSIBLE EXPOSURE LIMIT (PEL) FOR GENERAL INDUSTRY: 15MG/M<sup>3</sup> TWA

### **SECTION 9. ----- PHYSICAL AND CHEMICAL PROPERTIES -----**

PHYSICAL STATE: POWDER

APPEARANCE: BLACK

ODOR: ODORLESS

MELTING POINT: NOT DETERMINED

PHYSICAL PROPERTIES SOLUBILITY: WATER-INSOLUBLE

**SECTION 10. -----STABILITY AND REACTIVITY -----**

STABILITY: STABLE.

INCOMPATIBILITIES STRONG OXIDIZING AGENTS HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS CARBON MONOXIDE, CARBON DIOXIDE HAZARDOUS POLYMERIZATION WILL NOT OCCUR.

**SECTION 11. ----- TOXICOLOGICAL INFORMATION -----**

ACUTE EFFECTS MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN. MAY BE HARMFUL IF SWALLOWED. TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED. MAY CAUSE SKIN IRRITATION. CAUSES EYE IRRITATION. MATERIAL IS IRRITATING TO MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT. MAY BE HARMFUL BY INHALATION, INGESTION, OR SKIN ABSORPTION.

**SECTION 12. ----- ECOLOGICAL INFORMATION -----**

DATA NOT YET AVAILABLE.

**SECTION 13. ----- DISPOSAL CONSIDERATIONS -----**

DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

**SECTION 14. ----- TRANSPORT INFORMATION -----**

NOT REGULATED

**SECTION 15. ----- REGULATORY INFORMATION -----**

EUROPEAN INFORMATION IRRITANT R 36/37 IRRITATING TO EYES AND RESPIRATORY SYSTEM. S 26 IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE. S 36 WEAR SUITABLE PROTECTIVE CLOTHING.

**SECTION 16. ----- OTHER INFORMATION -----**

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