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Revised on June 10, 2011
Revision no. 4

MATERIAL SAFETY DATA SHEET

SECTION 1. ----- CHEMICAL IDENTIFICATION-----

NAME: CARBON NANOTUBES, SINGLE-WALLED, APPLICABLE TO NANOLAB PRODUCT CODES: PD1.5L1-5-S, PD1L1-10-J, PD1L1-10-P, PD1L1-10-A, & ALL UNFUNCTIONALIZED, CARBOXYL AND AMIDE VERSIONS

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

A CAS NUMBER HAS NOT BEEN ASSIGNED TO CARBON NANOTUBES AS OF JUNE 10, 2011

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, 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-----

REFER TO SECTION 8.

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

SAFETY SHOWER, EYE BATH, AND 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.

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

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 -----

THIS MATERIAL IS LISTED ON THE US TOXIC SUBSTANCES CONTROL ACT (TSCA) INVENTORY AND THE FOLLOWING CHEMICAL INVENTORIES:

CANADIAN DOMESTIC SUBSTANCES LIST (DSL)

EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES (EINECS)

KOREAN EXISTING CHEMICALS LIST (ECL)

AUSTRALIAN INVENTORY OF CHEMICAL SUBSTANCES (AICS)

GIFTLISTE 1 INVENTORY OF NOTIFIED NEW SUBSTANCES.

IN ADDITION THIS SUBSTANCE IS NOT REGULATED ACCORDING TO THE JAPANESE MINISTRY OF ECONOMY, TRADE AND INDUSTRY, FORMERLY THE MINISTRY OF INTERNATIONAL TRADE AND INDUSTRY. (MITI)

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

THIS PRODUCT'S SAFETY INFORMATION IS PROVIDED TO ASSIST OUR CUSTOMERS IN ASSESSING COMPLIANCE WITH HEALTH, SAFETY, AND ENVIRONMENTAL REGULATIONS.

THE INFORMATION CONTAINED HERE IN IS BASED ON DATA AVAILABLE TO US AND IS BELIEVED TO BE ACCURATE, ALTHOUGH NO GUARANTEE OR WARRANTY IS PROVIDED BY THE COMPANY IN THIS RESPECT. SINCE THE USE OF THIS PRODUCT IS WITHIN THE EXCLUSIVE CONTROL OF THE USER, IT IS THE USER'S OBLIGATION TO DETERMINE THE CONDITIONS OF SAFE USE OF THIS PRODUCT. SUCH CONDITIONS SHOULD COMPLY WITH ALL FEDERAL REGULATIONS CONCERNING THE PRODUCT.

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3. ANYONE ENGAGED IN EXPERIMENTATION, RESEARCH, OR ANALYSIS OF NANOLAB PRODUCTS, INCLUDING THE PROCESSING, USE, TRANSPORT, STORAGE, AND DISPOSAL OF OUR PRODUCTS, SHOULD REVIEW OUR MSDS INFORMATION AND ALSO REVIEW AVAILABLE LITERATURE ON THE HEALTH AND SAFETY OF NANOMATERIALS AND CARBON NANOTUBES. NANOLAB HAS PLACED ON ITS WEBSITE, [HTTP://WWW.NANO-LAB.COM/SAFETY.HTML](http://www.nano-lab.com/safety.html) LINKS TO ALL OF THE HEALTH AND SAFETY STUDIES OF WHICH IT IS AWARE. IF YOU ARE AWARE OF OTHER STUDIES WHERE NANOLAB NANOTUBES HAVE BEEN USED, PLEASE INFORM US AT [INFO@NANO-LAB.COM](mailto:info@nano-lab.com)

LAST REVISION DATE: July 30, 2010