INTEGRATED CNT TECHNOLOGIES CORPORATION (ICT)

SAFETY DATA SHEET

SINGLE-WALL CARBON NANOTUBE AQUEOUS DISPERSIONS WITH SODIUM DEOXYCHOLATE

SECTION 1: IDENTIFICATION

Product(s)	(6,5)-SDC-90, (6,5)-SDC-80, (7,5)-SDC-70, (8,3)-SDC-60, (5,5)-SDC-90
Other means of identification	Aqueous dispersions of single-chirality purified single-wall carbon nanotubes
Recommended use	Research-use single-wall carbon nanotube material for biotechnology, sensing, spectroscopy, electronics, materials research, and related R&D applications.
Restrictions on use	For research and industrial R&D use only. Not for food, drug, cosmetic, household, or direct clinical use unless separately qualified for that application.
Manufacturer / responsible party	Integrated CNT Technologies Corporation (ICT) 110 Canal St. Ste. 4 Lowell, Massachusetts 01852, USA
Telephone	(610) 216-6438

SECTION 2: HAZARD(S) IDENTIFICATION

OSHA HCS classification: 29 CFR 1910.1200(d)

Classification under OSHA HCS 29 CFR 1910.1200(d)	Not classified as hazardous.
Signal word	None.
Hazard pictogram(s)	Not a hazardous substance or mixture.
Hazard statement(s)	None required.
Precautionary statement(s)	None required.
Hazards not otherwise classified (HNOC)	Carbon nanotubes are present as a dilute aqueous dispersion. Avoid generating aerosols or allowing dried residues to become airborne. Inhalation exposure to airborne carbon nanotubes should be minimized.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS No.	Concentration
Single-wall carbon nanotubes (SWCNTs)	308068-56-6	0.01-0.5 mg/mL
Sodium deoxycholate (SDC)	302-95-4	10 mg/g
Water	7732-18-5	balance

SECTION 4: FIRST-AID MEASURES

Inhalation	Move person to fresh air if adverse effects occur. Obtain medical attention if symptoms persist.
Skin contact	Wash with soap and water. Remove contaminated clothing. Obtain medical attention if irritation develops or persists.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation persists.
Ingestion	Rinse mouth with water. Do not induce vomiting. Obtain medical advice if a significant quantity is swallowed or symptoms occur.
Most important symptoms/effects	Possible mechanical/irritant effects from contact; respiratory effects are the principal concern for airborne CNT exposure.
Immediate medical attention / special treatment	Treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable extinguishing media	Use extinguishing media appropriate for the surrounding fire.

Unsuitable extinguishing media	None known.
Specific hazards	Product is an aqueous dispersion and is not expected to be combustible. Containers may rupture if exposed to excessive heat.
Special protective equipment and precautions for fire-fighters.	Firefighters should wear self-contained breathing apparatus and full protective equipment when exposure to combustion products is possible.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, emergency procedures	Avoid contact with eyes and prolonged skin contact. Avoid generating aerosols. Wear laboratory gloves and eye protection as appropriate for the quantity handled.
Containment and cleanup	Contain liquid spill with absorbent material. Collect into a suitable closed container. Clean remaining residue using wet methods. Avoid allowing CNT-containing residues to dry and become airborne. Do not use compressed air or dry sweeping on dried residues.
Environmental precautions	Avoid uncontrolled release to drains, surface water, or soil. Dispose of collected material in accordance with applicable requirements.

SECTION 7: HANDLING AND STORAGE

Safe handling	Avoid breathing aerosols, mists, or dust. Avoid eye and skin contact. Keep CNT material wetted/contained when practicable. Do not use compressed air to clean CNT residues. Wash hands after handling.
Storage	Keep container tightly closed. Store at [CUSTOMIZE: temperature range] away from incompatible materials. Protect from [CUSTOMIZE: freezing/light, if applicable].
Specific end use	Research and industrial R&D. Follow laboratory nanomaterial handling practices.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Component	OSHA PEL	NIOSH REL / guidance	Notes
CNT	No CNT-specific OSHA PEL identified	1 µg/m³ respirable elemental carbon, 8-hour TWA	NIOSH REL; control exposure as low as practicable
[CUSTOMIZE ingredient]	[CUSTOMIZE]	[CUSTOMIZE]	Review current SDS for ingredient

Engineering controls	For routine pipetting/handling of small quantities without aerosol generation, normal laboratory ventilation is generally appropriate. Use local exhaust or other controls for procedures that intentionally generate aerosols or dried particulates.
Eye/face protection	Safety glasses recommended for routine laboratory handling; use splash goggles when splashing is reasonably foreseeable.
Skin protection	Laboratory coat and disposable laboratory gloves are recommended.
Respiratory protection	Not normally required for routine handling of the aqueous dispersion. If a process may generate CNT-containing aerosol or airborne dried residue, perform a task-specific exposure assessment and use appropriate engineering controls and respiratory protection where required.
Hygiene measures	Wash hands after handling and before eating or drinking. Do not eat, drink, or smoke in laboratory handling areas.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Color	Varies with SWCNT chirality and concentration
Odor	none
Melting point/freezing point	0 °C
Boiling point or initial boiling point and boiling range	100 °C
Flammability	aqueous dispersion not expected to be flammable

Lower/upper explosion limit	not applicable for aqueous dispersion
Flash point	not applicable for aqueous dispersion
Auto-ignition temperature	not applicable for aqueous dispersion
Decomposition temperature	No applicable information available
pH	6 - 8
Kinematic viscosity	no data available
Solubility	SWCNTs are not molecularly soluble in water; product is a colloidal dispersion stabilized by sodium deoxycholate
Vapor pressure	As for water
Density / relative density	no data available

SECTION 10: STABILITY AND REACTIVITY

Reactivity	No hazardous reaction expected under normal conditions of storage and use.
Chemical stability	Stable under recommended storage conditions. Colloidal stability may change with temperature, ionic strength, pH, or contamination.
Possibility of hazardous reactions	No hazardous polymerization expected.
Conditions to avoid	Aerosol/dust generation; drying of residues where avoidable; freezing
Incompatible materials	As for water
Hazardous decomposition products	None known

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicological properties of CNTs can vary with dimensions, structure, surface chemistry, impurities, aggregation state, and route of exposure.

Likely routes of exposure	Inhalation of aerosol/dust; eye and skin contact; accidental ingestion.
Acute effects	No data available
Delayed/chronic effects	NIOSH has identified pulmonary inflammation and fibrosis as key concerns from occupational inhalation exposure to CNT/CNFpowders. It is unknown if singe-wall carbon nanotubes pose a similar risk.
Carcinogenicity	No data available
Numerical toxicity measures	No data available
Interactive effects	No applicable information available

SECTION 12: ECOLOGICAL INFORMATION

Product-specific ecotoxicity, persistence/degradability, bioaccumulation, mobility, and other adverse-effect data: no data available. Avoid uncontrolled environmental release.

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contents/container in accordance with applicable federal, state, and local regulations. Do not discharge CNT-containing material to drains unless specifically permitted. Collect CNT-containing liquid, absorbents, filters, wipes, and dried residues in closed, labeled waste containers. Waste classification depends on the complete formulation and local requirements.

SECTION 14: TRANSPORT INFORMATION

UN number	Not applicable
UN proper shipping name	Not applicable
Transport hazard class(es)	Not applicable
Packing group	Not applicable
Environmental hazards	Not classified as environmentally hazardous for transport
Special precautions	Keep containers securely closed and protected from damage/freezing as applicable.
DOT / IATA / IMDG	Not regulated as dangerous goods

SECTION 15: REGULATORY INFORMATION

U.S. Federal Regulations

OSHA Hazard Communication Standard (29 CFR 1910.1200): This product has been evaluated in accordance with the OSHA Hazard Communication Standard. See Section 2 for hazard classification and applicable hazard information.

Toxic Substances Control Act (TSCA): The carbon nanotube component of this product is **not represented as listed on the TSCA Chemical Substance Inventory**. This product is manufactured and distributed in small quantities solely for research and development purposes pursuant to the research and development exemption under **TSCA Section 5(h)(3) and 40 CFR §720.36**. It is intended only for use by, or under the supervision of, technically qualified individuals for scientific experimentation, analysis, or research and development. **Not for consumer use or general commercial use.**

Distribution of this product does not constitute representation that the carbon nanotube component is registered, listed, or otherwise authorized for non-R&D commercial purposes under TSCA.

Research-use restriction: FOR RESEARCH AND DEVELOPMENT USE ONLY. NOT FOR CONSUMER USE. Recipient shall use this material only for research and development purposes and in accordance with applicable federal, state, and local requirements.

SARA/EPCRA: To the best of the supplier's knowledge, this product does not contain components at concentrations requiring reporting under **SARA Title III Section 313**.

CERCLA: To the best of the supplier's knowledge, this product does not contain components subject to CERCLA reportable quantities at the concentrations present.

U.S. State Regulations: State-specific regulatory status has not been comprehensively determined. Users are responsible for compliance with applicable state and local requirements.

European Union – REACH: The carbon nanotube component is **not represented as REACH registered**. This product is supplied as a research material and is not represented as compliant for unrestricted commercial manufacture, import, or use within the European Economic Area. Applicability of REACH requirements, including exemptions or reduced obligations for scientific research and development (SR&D) or product and process orientated research and development (PPORD), must be determined by the EU manufacturer, importer, or user based on the specific use and quantity.

Other inventories: No representation is made regarding listing or registration of the carbon nanotube component on chemical inventories outside the United States. Regulatory status should be determined before importation or use in other jurisdictions.

SECTION 16: OTHER INFORMATION

SDS preparation date	10/5/2026
Revision date	N/A
Revision number	1.0
Prepared by	Integrated CNT Technologies Corporation (ICT)

Key references:

• U.S. OSHA, 29 CFR 1910.1200, Hazard Communication Standard, including Appendix D — Safety Data Sheets (Mandatory).

• U.S. OSHA, Hazard Communication Standard Final Rule (May 20, 2024; effective July 19, 2024), aligning primarily with GHS Revision 7, as subsequently corrected/amended.

• NIOSH Current Intelligence Bulletin 65, Occupational Exposure to Carbon Nanotubes and Nanofibers, DHHS (NIOSH) Publication No. 2013-145.