Material Safety Data Sheet

Multi-Walled Carbon Nanotubes

Revision Date: 02/12/2010
Date Issued: 01/03/2007

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY / UNDERTAKING

Product name	Multi-Walled Carbon Nanotubes
Product code	CP-0010-SG
Supplier	IoLiTec Ionic Liquids Technologies GmbH Salzstrasse 184 D-74076 Heilbronn Germany
Telephone	+49 (0)7131 - 898390
Fax	+49 (0)7131 - 89839109
Emergency telephone	+49 (0)179 - 5322578
Email	msds@iolitec.de

2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (67/548/EEC or 1999/45/EC)

Caution! Substance not yet fully tested. Risks cannot be excluded if the product is handled inappropriately. For laboratory use only!

Classification (REGULTATION (EC) No 1272/2008)

Caution! Substance not yet fully tested. Risks cannot be excluded if the product is handled inappropriately. For laboratory use only!

Skin corrosion/irritation, Category 2, H315
Serious eye damage/Eye irritation, Category 2, H319
Specific Target Organ Toxicity - Single exposure:
Respiratory tract irritation, Category 3, H335

2.2 Label elements

Labelling (67/548/EEC or 1999/45/EC)

Hazard description:

Label for supply

Risk phrases

R36: Irritating to eyes.

R37: Irritating to respiratory system.

R38: Irritating to skin.

Safety phrases

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S28: After contact with skin, wash immediately with plenty of water.

S36: Wear suitable protective clothing

Labelling (REGULATION (EC) No 1272/2008, GHS)

Hazard statements

Warning

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H-phrases

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H335: May cause respiratory irritation.

Precautionary statements

P-phrases

P261: Avoid breathing dust/fume/gas/mist/vapours/spray .

P280: Wear protectic gloves/protective clothing/eye protection/face protection .

P302 + P352: IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P332 + P313: If skin irritation occurs: Get medical advice/attention.

P362: Take off contaminated clothing and wash before reuse

3 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient name	Multi-Walled Carbon Nanotubes
CAS No.	308068-56-6
Empirical Formula	C
Molecular weight	12.01 amu

4 FIRST AID MEASURES

General	Contaminated clothing should be removed and washed before being reused.

Inhalation	Move the exposed person to fresh air at once. If respiratory problems, artificial respiration/oxygen.
Ingestion	Immediately rinse mouth and provide fresh air. Do not induce vomiting. Get medical attention immediately.
Skin	Wash the skin immediately with soap and water.
Eyes	Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention immediately. Continue to rinse.

5 FIRE FIGHTING MEASURES

Extinguishing media	Water, Carbon Dioxide, Dry chemical or Foam.
Special fire fighting procedures	No special procedures required.
Unusual fire & explosion hazards	Thermal decomposition or combustion may produce dense smoke.
Protective measures in fire	Wear self-contained breathing apparatus as combustion may produce hazardous fumes.

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6 ACCIDENTAL RELEASE MEASURES

Personal precautions during spill	Wear protective clothing and avoid inhalation of powder, fume and vapor as well as skin or eye contact.
Precautions to protect environment	Avoid washing into water courses. Avoid contaminating public drains or water supply.
Spill cleanup methods	Avoid contact with skin or inhalation of spillage, dust or vapor, Avoid dust formation. Collect and reclaim or dispose in sealed containers in license waste. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate.

7 HANDLING AND STORAGE

Handling precautions	Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.
Storage precautions	Keep closed.

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Protective equipment	Safety goggles. Chemical resident gloves. Protective clothing. Protective mask.

Process control measures	Provide eyewash station and safety shower. Use engineering controls to reduce air contamination to permissible exposure levels.
Ventilation	Provide adequate general and local exhaust ventilation.
Respirators	Use high efficiency particulate respirator with appropriate filter.

Exposure Limits

American Threshold Limit Value (TLV): 3.5 mg/m^3 (ACGIH)

German maximale Arbeitsplatzkonzentration (MAK): 6 mg/m^3

Britisch Occupational Exposure Limit (OEL): 3.5 mg/m^3

Italian Exposure Limit: 3.5 mg/m^3 TWA ; 7.0 mg/m^3 STEL

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Solid
Odor/taste	No characteristic odor.
PH	N/A
Boiling Point	N/A
Melting Point	3,652~3,697℃
Flash Point	N/A
Flammability	N/A
Autoignition Temp	N/A
Oxidizing Properties	N/A
Explosive Properties	N/A
Explosion Limits	N/A
Vapor Pressure	N/A

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SG/Density	N/A
Partition Coefficient	N/A
Viscosity	N/A
Vapor Density	N/A
Saturated Vapor Conc.	N/A
Evaporation Rate	N/A
Bulk Density	N/A
Decomposition Temp.	N/A
Solvent Content	N/A
Water Content	N/A
Surface Tension	N/A
Conductivity	N/A
Solubility in water	insoluble

10 STABILITY AND REACTIVITY

Stability	No particular stability concerns.
Hazardous Decomposition Products	Consistency of decomposition products unknown.

11 TOXICOLOGICAL INFORMATION

Ingestion	Harmful if swallowed.
Inhalation	May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.

Skin	May cause irritation and allergic reaction.
Eyes	May cause irritation and allergic reaction.

12 ECOLOGICAL INFORMATIONS

No known ecological harms.

13 DISPOSAL CONSIDERATIONS

Disposal method	Contact specialist disposal companies. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Dispose of in accordance with Local Authority requirements. Recover and reclaim or recycle, if practical.

14 TRANSPORT INFORMATION

General	Not classified as dangerous for transport purposes.
UN No.	0
Road transport notes	Not classified as dangerous for road transport.
Rail transport notes	Not classified as dangerous for rail transport.
Sea transport notes	Not classified as dangerous for sea transport.
Air transport notes	Not classified as dangerous for air transport.

15 REGULATORY INFORMATION

In accordance with local and national regulations.

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16 OTHER INFORMATION

DISCLAIMER

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