
MATERIAL SAFETY DATA SHEET (MSDS) LTCC CARBON PASTE PRODUCTS

IDENTIFICATION**BRAND NAMES:** LTCC Carbon Paste, Carbon Black Paste.**CHEMICAL FAMILY:** Mixture.**FORMULA:** Proprietary.**MANUFACTURER**

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INFORMATION AND EMERGENCY PHONE NUMBER

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PHYSICAL DATA**FORM:** Viscous paste**ODOR:** Not determined**APPEARANCE:** Dark black colored paste**SOLUBILITY IN WATER:** N/E**SOFTENING POINT:** N/E**BOILING POINT:** 245 C @ 760mmHg**VAPOR DENSITY:** N/E**EVAPORATION RATE:** N/E

N/E: Not established

CHEMICAL COMPONENTS

Unspecified components are proprietary and/or non-hazardous.

Materials	CAS#
Carbon Black, 0.24 – 0.32 micrometer mean particle diameter	1333-86-4
Ethylcellulose	9004-57-3
2-(2-n-Butoxyethoxy)ethyl acetate	124-17-4
2-[2-(4-nonylphenoxy)ethoxy]ethanol	9062-77-5
Furan-2-carboxylic acid	88-14-2

HAZARDOUS REACTIVITY**INSTABILITY:** Stable.**INCOMPATIBILITY:** Contains organic materials that are incompatible with oxidizing agents, peroxides, strong acids or bases, finely divided aluminum, finely divided zirconium, heat, ignition sources, and moisture. Avoid storage or use with trifluoride or bromine pentafluoride materials.**HAZARDOUS DECOMPOSITION OR BYPRODUCTS:** Decomposition products at elevated temperatures may include water, carbon monoxide, carbon dioxide, hydrocarbon fragments, aldehydes, ketones and smoke.

HAZARDOUS POLYMERIZATION: Not likely to occur by itself.

FIRE AND EXPLOSION DATA

AUTO IGNITION : 201 deg. C, estimated.

FLASHPOINT : 102 deg. C, estimated.

FLAMMABILITY AND EXPLOSION HAZARDS: May form explosive mixtures with air. May form peroxides of unknown stability.

EXTINGUISHING MEDIA: Water spray, carbon dioxide, dry chemical powder, or appropriate foams are suitable extinguishing media.

SPECIAL FIREFIGHTING INFORMATION: Toxic decomposition products may form under fire conditions. (See decomposition section.) Wear full protective clothing and a full face shield, positive pressure, self-contained breathing apparatus (SCBA). Decontaminate contaminated clothing and equipment with soap and water. Dispose of residues per federal, state, and local regulation.

HEALTH HAZARD INFORMATION

SUMMARY OF PRINCIPAL HEALTH EFFECTS

Carbon Black.

INHALATION – Unlikely route of exposure, material is in form of thick paste. Dust may cause temporary discomfort to upper respiratory tract.

INGESTION – No evidence of adverse effects.

SKIN – May cause mechanical irritation, soiling, and skin drying. Use of lab gloves is recommended.

EYES – May cause mechanical irritation to eye.

Ethylcellulose.

INHALATION – Vapors are unlikely due to physical properties. Single exposure to dust is not likely to be hazardous.

INGESTION – Single dose oral toxicity is considered to be extremely low.

SKIN – Prolonged or repeated exposure not likely to cause significant skin irritation. A single prolonged exposure is not likely to result in the materials being absorbed through skin in harmful amounts.

EYES – Mechanical injury only.

2-(2-n-Butoxyethoxy)ethyl acetate.

INHALATION – May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract. If inhaled remove to fresh air. If breathing becomes difficult, call a physician.

INGESTION – May be harmful if swallowed. If swallowed wash out mouth with water provided person is conscious. Call a physician.

SKIN – May cause skin irritation. May be harmful if absorbed through skin. Readily absorbed through skin. In case of contact immediately wash skin with soap and copious amounts of water.

EYES – May cause eye irritation. In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Call a physician.

2-[2-(4-nonylphenoxy)ethoxy]ethanol.

INHALATION – Material is irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

INGESTION – May be harmful if swallowed.

SKIN – May be harmful if absorbed through skin.

EYES – May cause eye irritation.

Furan-2-carboxylic acid.

INHALATION – Material is irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

INGESTION – May be harmful if swallowed.

SKIN – Causes skin irritation.

EYES – Causes eye irritation.

FIRST AID INSTRUCTIONS

INHALATION: Remove to fresh air immediately. Check for clear airway, breathing, and presences of pulse. Provide CPR for Persons without pulse or respirations. Prevent aspiration of vomit. If breathing is difficult give oxygen. Get medical attention immediately.

INGESTION: If swallowed, get medical attention immediately. *Never give anything by mouth to a convulsing or unconscious person.* If swallowed wash out mouth with water provided person is conscious. Call a physician immediately.

SKIN: Wash thoroughly with mild soap and copious amounts of water. Seek medical attention if irritation develops.

EYES: Flush with plenty of water for at least 15 minutes holding the eyelids open. Call a physician.

EXPOSURE CONTROLS, PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Respiratory protection is not required under normal use conditions. Wear NIOSH-approved respirator if fume or dust exposure levels might be exceeded. Atmospheric levels should be maintained below the exposure guidelines. Provide general and local exhaust ventilation to control airborne levels below the exposure guidelines.

EYE PROTECTION: Chemical safety goggles.

PROTECTIVE GLOVES: Use chemical resistant gloves.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Mechanical exhaust required.

WORK HYGIENIC PRACTICES: The usual precautionary measures for handling chemicals should be followed. Keep away from foodstuffs, beverages and feed. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at end of work.

EMERGENCY EQUIPMENT: Always ensure there is an emergency eye wash in the area.

DISPOSAL INFORMATION

SPILL LEAK OR RELEASE: Contact a licensed professional waste disposal service to dispose of this material. 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. Do not dump into any sewers, on the ground or into any body of water.

PRODUCT INFORMATION

HANDLING AND STORAGE: Keep tightly closed, minimize exposure to air. Store product in a cool, dry location. Keep away from open flame, heat, and other ignition sources. If peroxide formation is suspected, do not open or move container. Avoid contact with skin, eyes, and clothing.

ADDITIONAL INFORMATION

PERSON RESPONSIBLE FOR MSDS:

Safety Officer
C12 Advanced Technologies, LLC
Phone (206) 795-8925 USA
info@C12Materials.com

DATE OF LATEST MSDS REVISION

3/1/2012