

MATERIAL SAFETY DATA SHEET

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SECTION 1 PRODUCT IDENTIFICATION

Product Name: **Cho-Bond 4660**
General Name: Conductive Caulk

SECTION 2 COMPOSITION INFORMATION

<u>Components & CAS. No.</u>	<u>Weight %</u>	<u>Exposure Limits</u>
Copper 7440-50-8	< 60	OSHA PEL TWA: 1 mg/m ³ ; ACGIH TLV TWA: 1 mg/m ³ .
Silver 7440-22-4	< 10	OSHA PEL TWA: 0.01 mg/m ³ ; ACGIH TLV TWA: 0.1 mg/m ³ .
n-Heptane 142-82-5	10 - 20	OSHA PEL TWA: 400 ppm; ACGIH TLV TWA: 400 ppm, STEL: 500 ppm
Polyisobutylene 9003-27-4	10 - 20	Not Established.
Amorphous fumed silica 112945-52-5	< 5	OSHA PEL TWA: 15mg/m ³ (total dust), 5 mg/m ³ (resp. fraction); ACGIH TLV TWA: 10 mg/m ³ (total dust), 3 mg/m ³ (resp. fraction)
Carbon black 1333-86-4	< 5	OSHA PEL TWA: 3.5 mg/m ³ ; ACGIH TLV TWA: 3.5 mg/m ³ .

SECTION 3 HAZARDS IDENTIFICATION

Emergency Overview: Gray/silver liquid with a solvent odor. Flammable liquid. Keep away from heat, sparks and other sources of ignition. May cause moderate eye irritation, moderate skin and respiratory irritation. Chronic health effects. Refer to other sections of the MSDS for more detail.

Routes of Entry: Inhalation, skin and eye contact.

Acute Effects

Eye: Contact may cause moderate eye irritation.

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- Skin:** Prolonged or repeated skin contact may cause defatting or drying of the skin which may lead to irritation and /or dermatitis (rash).
- Inhalation:** Inhalation of high concentrations may cause respiratory irritation and central nervous system effects progressing from headache, dizziness, staggering gait and confusion to unconsciousness, coma, and death. The severity of these effects will be dependent on the vapor concentration and length of exposure.
- Ingestion:** Harmful if swallowed.
- Chronic Effects:** Prolonged and repeated contact with silver may result in argyria, a blue-gray discoloration of the eyes, skin or other body tissue. Once deposited, there is no known means by which the silver can be eliminated; the pigmentation is permanent.
- Although chronic adverse effects on the nervous system have not been attributed to heptane itself, some studies of petroleum fractions including heptane have shown signs of neurological disorders.
- This material contains carbon black which has been classified by the International Agency For Research on Cancer (IARC) as possibly carcinogenic to humans (Group 2B). Carbon black has not been listed as a carcinogen by the National Toxicity Program (NTP).

Special Condition Effects: No data is available for this product mixture.

Aggravated Medical Conditions:

Pre-existing peripheral nerve disorders may be aggravated by exposure to n-heptane. Persons with pre-existing heart disorders may be more susceptible to irregular heartbeats if exposed to high concentrations of n-heptane.

SECTION 4 FIRST AID MEASURES

Handle in accordance with good industrial hygiene and safety practices by avoiding unnecessary exposure and by removing material from the eyes, skin and clothing.

- Eye:** Immediately and thoroughly flush the eyes with large amounts of water occasionally lifting the upper and lower eyelids. Get medical attention if irritation persists.
- Skin:** Remove contaminated clothing. Remove material from skin and wash area thoroughly with soap and water. Get medical attention if irritation persists.
- Inhalation:** Remove to fresh air. Get immediate medical attention if irritation persists, breathing becomes difficult or if symptoms (as described in SECTION 3) develop.
- Ingestion:** Get immediate medical attention. DO NOT induce vomiting, potential aspiration hazard. Never give anything by mouth to an unconscious, drowsy, or convulsing person.

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SECTION 5 FIRE FIGHTING MEASURES

Flash Point: Not established 25°F closed cup (for heptane)
Autoignition Temp: Not established.
Flammability Limits: Not established. Lel: 1.05% uel: 6.7% vol. in air (for heptane)

Extinguishing Media: Carbon dioxide, water, water foam, dry chemical.

Fire Fighting Procedures: Use self-contained breathing apparatus and protective clothing. If large quantities of material are involved, evacuate area and fight fire from a safe distance.

Unusual Fire Hazards: Decomposition and combustion products may be toxic. Vapors can form flammable/explosive mixture in air at or above the flash point temperature. This product contains solvent with vapors are heavier than air and can travel along the ground to an ignition source resulting in a flashback to the source of the vapors.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Spill response operations must be conducted in accordance with the provisions of 29 CFR 1910.120. Observe all recommendations identified in Sections 5 and 8.

Procedures: Release can create fire/explosive hazard. Determine whether to evacuate personnel or isolate the spill area depending on specific spill/release factors. Limit access to spill area. Eliminate all sources of ignition. Ventilate the area using explosion-proof equipment. Use only tools approved for use in flammable environments. Prevent the release from entering sewers or waterways. Collect spill material for reuse or salvage. Cover remaining spilled materials with inert material to absorb residue. Transfer liquids and absorbed materials to appropriate containers. Observe all applicable local, state and federal waste management regulations.

SECTION 7 HANDLING AND STORAGE

Handling: Prevent allow contact with eyes. Prevent skin contact. Avoid exposure by inhalation. Wash thoroughly after handling and before eating, drinking or smoking. Use with adequate ventilation.

Control static electricity accumulation and discharge by effectively grounding and bonding containers when transferring liquids, and during storage and use. The use of explosion-proof equipment is recommended and may be required.

Storage: Store in a cool, dry location with adequate ventilation. Store in tightly closed container. Keep away from heat, sparks, flames and other ignition sources. Prevent contact and storage with incompatible materials.

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Because empty containers may retain product residue and flammable vapors, keep away from heat, spark, or other sources of ignition. Do not cut, weld, drill, grind on or near empty containers. Do not smoke where this product is used or stored.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

The recommendations described in this section are provided as general guidance for minimizing exposure. Because usage conditions vary with customer applications, specific exposure controls should be developed by a person knowledgeable in the intended usage condition and equipment.

- Ventilation: Provide local exhaust ventilation to capture vapors or mist generated by the process. Use explosion-proof exhaust ventilation equipment unless a process and equipment evaluation indicates this action is not required. Ventilation must be sufficient to maintain airborne levels of Section 2 ingredients below their exposure limits.
- Eyes: Wear safety eye wear including safety glasses with side shields and chemical goggles.
- Skin: Wear protective gloves and, if appropriate, chemical resistant clothing to prevent skin contact. Wash thoroughly after handling and before eating, drinking or smoking. Remove contaminated clothing or shoes immediately and thoroughly clean before reuse.
- Inhalation: Use NIOSH/MSHA approved respiratory protection if adequate exhaust ventilation is not provided or air sampling indicates exposure limits are exceeded. The type of respirator selected will depend on the conditions of use. Respiratory protection programs must comply with 29 CFR 1910.134.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

- Physical Form: Gray/silver liquid with solvent odor.
- Specific Gravity: >1
- Boiling Point: Not determined.
- Vapor Pressure (25°C): Not determined.
- Vapor Density: Heavier than air.
- Solubility in Water: Insoluble.
- Volatile Content (Wt%): 10-20

SECTION 10 STABILITY AND REACTIVITY

- Chemical Stability: Stable.
- Hazardous Polymerization: Will not occur.
- Condition to Avoid: Avoid storage in open containers, exposure to ignition sources and contact with incompatible materials.

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Incompatibilities: Incompatible with strong oxidizers, strong acids, strong alkalis and amines.

Hazardous Decomposition: Thermal decomposition and burning may produce carbon monoxide, carbon dioxide, aldehydes, acids, metal oxides and traces of incompletely burned carbon products.

SECTION 11 TOXICOLOGY INFORMATION

All available toxicology information has been provided in Section 3 of this document.

SECTION 12 ECOLOGICAL INFORMATION

No data on ecological effects is available.

SECTION 13 DISPOSAL INFORMATION

Since regulations vary, consult applicable regulations or authorities before disposing of this material.

SECTION 14 TRANSPORTATION INFORMATION

Proper Shipping Name: Resin Solution
Class: 3
UN Number: UN1866
Packing Group: II

SECTION 15 REGULATORY AND MISCELLANEOUS INFORMATION

TSCA: All components of this product are listed on the TSCA inventory.

SARA 313 Chemicals: Silver 7440-22-4 Copper 7440-50-8

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Revision Information: Text consistency changes made. Ingredients levels adjusted.

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