

SAFETY DATA SHEET

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

NANO3D SYSTEMS LLC.

ADDRESS: 1110 NE Circle Blvd.,
ATAMI/Bldg. 11, Corvallis, OR 97330

<https://nano3dsystems.com>

EMERGENCY NO. 1-800-424-9300 CHEMTREC

MATERIAL NAME: **PCB ELECTROLESS COPPER SOLUTION B**

REVISED: April 2016

CHEMICAL FAMILY: Organic

Product Number: 110-0080000

For ½ Gal: 110-0080

SECTION 2. HEALTH HAZARD INFORMATION

GHS Classifications

H224: Flammable liquid: Category 1

H300: Acute toxicity oral : Category 1

H332: Acute toxicity inhalation : Category 4

H315: Skin corrosion / skin irritation : Category 3

H320: Serious eye damage / eye irritation : Category 2B

H373: Special target organ systemic toxicity repeated exposure : Category 2

H350: Carcinogenicity: Category 1B

H402: Acute aquatic environmental hazards : Category 3

Pictograms or Hazard symbols



Danger: Extremely flammable liquid and vapor.



Danger: Fatal if swallowed.



Warning: Harmful in contact with skin. Harmful if inhaled.

Warning: Causes eye irritation.



Danger: May cause cancer.

Harmful to aquatic life.

Precautionary Statements

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P210 Keep away from heat, flames, and hot surfaces. No smoking.
- P233 Keep container tightly closed.
- P241 Use explosive-proof equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P260 Do not breathe fume/gas/mist/vapors.
- P261 Avoid breathing fumes/mist/vapors.
- P264 Wash thoroughly after handling.
- P270 Do not eat, drink, or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P273 Avoid release into the environment.
- P280 Wear protective gloves, clothing, and eye and face protection.
- P301 + P310 If swallowed, immediately call a physician.
- P303 + P361 + P353 If on skin (or hair) take off immediately all contaminated clothing. Rinse skin with water.
- P304 + P340 If inhaled, remove person to fresh air and keep comfortable for breathing.
- P305 + P351 + P338 If in eyes, rinse cautiously with water for several minutes.
- P308 + P313 If exposed or concerned, get medical advice/attention.
- P312 Call a physician if you feel unwell.
- P314 Get medical advice/attention if you feel unwell.
- P330 Rinse mouth.
- P332 + P313 If skin irritation occurs, get medical advice/attention.
- P337 + P313 If eye irritation persists, get medical advice/attention.
- P370 + P378 In case of fire use to extinguish.
- P403 + P235 Store in a well-ventilated place. Keep cool.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 3.COMPOSITION/INFORMATION ON INGREDIENTS

Material		Wt %
Methyl Alcohol	CAS# 67-56-1	25
Formaldehyde	CAS# 50-00-0	4
Water	CAS# 7732-18-5	71
Total		100

SECTION 4. FIRST AID MEASURES

EFFECTS OF OVEREXPOSURE

FIRST AID:

Eye Contact: Irritant to naked eye; in case of contact flush eyes well for 15 minutes, lifting the lower and upper eyelids occasionally. Vapors cause irritation.

Skin Contact: Defatting agent. May cause irritation with redness and pain. May be absorbed through the skin with possible systemic effects. Flush skin with water for 15 minutes. Symptoms similar to inhalation.

Inhalation: Slight irritant to mucous membranes. Toxic effects toward the nervous system, especially the optic nerve. Slowly eliminated from the body once absorbed. Symptoms of overexposure may include headache, drowsiness, nausea, vomiting, blurred vision, coma, and death. A victim may improve and then decline again up to 30 hours later.

Ingestion: Toxic with symptoms similar to inhalation. Can intoxicate and cause blindness. Typical fatal dose: 100-125 milliliters.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point and Method	Autoignition Temp.	Flammability Limits In Air	<u>LOWER</u>	<u>UPPER</u>
12 °C CC	464 °C		6.0	36

Explosion: Above flash point, vapor-air mixtures are explosive. Contact with strong oxidizers (chromic acid, perchlorate, phosphoric anhydride) may cause fire or explosion. Vapors are heavier than air and can flow along surfaces to distant ignition sources and flash back. Sensitive to static discharge.

Extinguishing media: Alcohol foam, dry chemical, or carbon dioxide (water may be ineffective).

Special fire fighting procedures: Wear full protective clothing and NIOSH self-contained breathing apparatus. Thermal decomposition produces toxic fumes. Contact with oxidizing reagents may cause extremely violent combustion.

SECTION 6. ACCIDENTAL RELEASE MEASURES

SPILLS, LEAKS: Ventilate area of leak or spill. Clean up personnel should wear protective clothing and NIOSH approved respirator. Dike and cover the contaminated areas with absorbent material such as vermiculite or sand. Transfer to a closed container and send to an approved waste disposal facility. Remove all ignition sources.

SECTION 7. HANDLING AND STORAGE

Storage & Handling Information Store below 30 °C. Store in a cool dry place. Do not store near incompatible products, ignition sources, or open flame. Store away from direct sunlight.

SECTION 8. EXPOSURE CONTROL/PERSONAL PROTECTION

Respiratory protection: If exposure limits are exceeded, wear NIOSH/MESA approved full or half face piece (with goggles) respiratory protective equipment. A respiratory protection program complying with requirements of 29CFR 1910.134 is recommended.

Ventilation: Where adequate ventilation is not available, use NIOSH approved vapor respirator with organic filters. Local ventilation through fume hoods or laminar flow stations is also preferred. Keep fumes away from ignition sources, sparks, or open flame.

Protective gloves: Skin contact should be minimized through use of impervious rubber gloves.

Other protective equipment: Steel tipped shoes/eye wash station/chemical safety chemical retardant clothing. Eye protection: Safety goggles / face shield.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form :	liquid
Appearance :	colorless
Odor :	pungent
pH :	no information
Melting point:	-98 °C

Boiling point/Boiling range :	66 °C
Flash point :	12 °C
Ignition point :	464 °C
Danger of explosion:	6-36
Decomposition temperature:	no information
Vapor density (Air = 1) :	1.1
Volatiles, %:	100
Vapor pressure at 25° C, mm Hg:	97
Specific gravity :	1.05 g/cc
Solubility in / Miscibility:	Completely miscible in water
Evap. Rate (Water = 1):	5.9

SECTION 10. STABILITY AND REACTIVITY

Stability Stable X Conditions to avoid: Excess heat , flame

Incompatible with:

Strong oxidizing agents such as nitrates, perchlorates, or sulfuric acid. May react with metallic aluminum to generate hydrogen gas.

Hazardous decomposition products: Carbon dioxide, carbon monoxide, formaldehyde

Hazardous	May occur	Conditions to avoid: Excess heat, sunlight.
polymerization:	Will not occur X	

SECTION 11. TOXICOLOGICAL INFORMATION

Oral, woman LD₅₀: 36 mg/kg (formalin)

Inhalation HUM TCLP: 8 ppm

Investigated as a tumorigen, mutagen, reproductive effector

Known carcinogen: Formaldehyde is a known carcinogen

Formaldehyde is immediately dangerous to life or health. Acute exposure of formaldehyde vapors or mist at concentrations of 1 ppm cause mucous membrane and respiratory tract irritation. Chronic exposure may promote the formation of squamous cell nasal carcinomas and may cause cirrhosis of the liver and chronic heart disease.

SECTION 12. ECOLOGICAL INFORMATION

Environmental Fate: When released into the soil, this material is expected to evaporate quickly but may leach into groundwater. When released into water, this material is expected to have a half-life between 1 and 10 days and will biodegrade to a moderate extent. This material is not expected to bioaccumulate. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals and have a half life between 10 and 30 days.

Ecotoxicity : This material is expected to be slightly toxic to aquatic life.

SECTION 13. DISPOSAL CONSIDERATIONS

DISPOSAL: Dispose of in accordance with all federal state and local regulations. Send

waste to an RCRA approved waste disposal facility.

SECTION 14. TRANSPORTATION INFORMATION

Proper shipping name: Flammable Liquids, N.O.S. (Methanol and Formaldehyde)

Hazard Class: 3

UN1993

Packing Group II

SECTION 15. REGULATORY

NFPA: 2-3-0

WHMIS: 3-3-0

Risk Symbol: F

Risk Phrases:

R11: Highly flammable

R18: In use, may form flammable/explosive vapor-air mixture

R36/37: Irritating to eyes and respiratory system

Safety Phrases:

S3/7: Keep container tightly closed in a cool place

S16: Keep away from sources of ignition—No smoking

S20/21: When using do not eat, drink, or smoke

The following components of this product are regulated as toxic chemicals under section 313 of title III SARA and 40CFR 372:

Methanol CAS# 67-56-1

Formaldehyde CAS# 50-00-0

SECTION 16. OTHER INFORMATION

TSCA listed ingredients