

Safety Data Sheet (SDS)

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To comply with European CLP Regulation 1272/2008, US 29CFR 1910.1200 OSHA's Hazard Communication Standard, and Australian NOHSC: 1008 [2004] and ADG Code 7.4

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Chip Quik Liquid Nano Coating
SYNONYMS: Nano Coating, Thin Coating, Conformal Coating
PART NUMBERS: NANOCOAT200-2-500ML, NANOCOAT200-4-500ML, NANOCOAT200-10-500ML, NANOCOAT200UV-2-500ML, NANOCOAT200UV-4-500ML, NANOCOAT200UV-10-500ML, NANOCOAT200-THINNER-500ML

MANUFACTURER: Chip Quik Inc.
ADDRESS: 931-3909 Witmer Rd., Niagara Falls, NY 14305 (USA)
3rd Floor, 207 Regent Street, London W1B 3HH (UK and EU)
8-1500 Sandhill Dr., Ancaster, ON L9G 4V5 (Canada)
42A Crimea Street, C/O A03886, Parramatta, NSW, 2150 (Australia)
PHONE: (508) 477-2264
EMERGENCY PHONE: (800) 424-9300 (USA and Canada 24/7 CHEMTREC)
+44 20 3868 7152 (UK and EU 24/7)
+61 2 8607 7057 (Australia 24/7)

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REVISION NUMBER: 1.0
REVISED BY: Chip Quik Product Safety

PRODUCT USE: Printed Circuit Board (PCB) Coating.

2. HAZARD IDENTIFICATION

Classified in accordance with European CLP Regulation 1272/2008

Acute Tox. 4
Skins Sens. 2
Aquatic Chronic 4

CHEMICAL NAME: NA
CHEMICAL FAMILY: Mixture
CHEMICAL FORMULA: Proprietary

ROUTES OF ENTRY: Inhalation, Ingestion, Skin/Eye Contact

TARGET ORGANS: NA

GHS/CLP:



Signal Word: Warning

TARGET ORGANS: NA

GHS/CLP LABEL ELEMENTS:

Hazard statement(s)

H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H336 May cause drowsiness or dizziness.
H413 Harmful to aquatic life with long lasting effects.

Precautionary statement(s)

P271 Use in a well-ventilated area.
P273 Avoid release to the environment.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

POTENTIAL HEALTH EFFECTS:

EYE CONTACT: May cause moderate irritation. Do not allow material to come into contact with eyes.
SKIN CONTACT: No additional information available.
INHALATION: May cause irritation to the respiratory tract.
INGESTION: May be fatal if swallowed and enters airways.

CHRONIC: Not established.

MEDICAL CONDITIONS POSSIBLY AGGRAVATED BY EXPOSURE: No additional information available.

SECTION 2 NOTES:

Chip Quik Inc. does not recommend, manufacture, market, or endorse any of its products for human consumption.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Classified in accordance with European CLP Regulation 1272/2008

Name	Product Identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
1,1,2,2-Tetrafluoroethyl-2,2,2-trifluoroethyl ether	(CAS-No.) 406-78-0	80-95	H336 H413
Fluoroacrylate	Proprietary	0.1-10	Not Classified

SECTION 3 NOTES:

This formulation does not contain PFOA or PFOS and is not derived from compounds comprising these materials. The components of this product are in compliance with the chemical notification requirements of TSCA. All applicable chemical ingredients in this material are listed on the European Inventory of Existing Chemical Substances (EINECS) or are exempt polymers whose monomers are listed on EINECS.

4. FIRST-AID MEASURES

EYES: Flush with plenty of water, contact a physician. If contact lenses can be removed easily, flush eyes without contact lenses.

SKIN: Wash affected area with plenty of warm, soapy water. If irritation persists, seek medical attention.

INGESTION: Rinse mouth. Drink 1 or 2 glasses of water. Do not induce vomiting without medical advice. Get immediate medical attention.

INHALATION: Remove person to fresh air. Thermal decomposition occurs at prolonged time at temperatures above 300°C. Effects of breathing thermal decomposition products may include coughing, sneezing, shortness of breath, and chest tightness. If thermal decomposition products have been inhaled, get immediate medical attention.

5. FIREFIGHTING MEASURES

EXTINGUISHING MEDIA: Water Spray, Dry chemical, foam, Carbon dioxide

SPECIAL FIRE FIGHTING PROCEDURES: When fire-fighting conditions are severe and total thermal decomposition of the product is possible, wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head. Exposure to decomposition products may be a hazard to health. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Evacuate personnel to safe areas. Cool containers/tanks with water spray. Residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Exposure to extreme heat can cause thermal decomposition. Carbon Monoxide, Carbon Dioxide, Hydrogen Fluoride, Fluorinated Hydrocarbons, Carbonyl Fluoride, Carbon oxides, Hydrogen Chloride.

6. ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: If material spills or leaks, remove traces of residue using absorbent sand or earth. Exposure to spilled material may be irritating. Follow on-site personal protective equipment recommendations.

ENVIRONMENTAL PRECAUTIONS: Avoid release to the environment. Collect spillage.

SECTION 6 NOTES:

See Sections 2, 4, and 7 for additional information.

7. HANDLING AND STORAGE

HANDLING/STORAGE: Keep containers tightly closed when not in use. Use care to avoid spills. Avoid inhalation of fumes. Avoid contact with eyes, skin, and clothing. Store in a closed corrosive resistant container, with corrosive resistant liner, in cool dry place. Wear appropriate personal protective equipment when working with or handling. Always wash hands thoroughly after handling this product. Dispose of following Federal, State/Provincial, and Local regulations.

OTHER PRECAUTIONS: Empty containers may retain product residues in vapor, liquid, and/or solid form. All labeled hazard precautions should be observed.

WORK HYGIENIC PRACTICES: Cosmetics/Food/Drink/Tobacco should not be consumed or used in work areas. Always wash hands after handling material and before applying or using cosmetics/food/drink/tobacco.

SECTION 7 NOTES:

For industrial use only.
Keep out of reach of children.
Not for internal consumption.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMIT VALUES:

Ingredient	CAS No.	Limit Type
1,1,2,2-Tetrafluoroethyl-2,2,2-trifluoroethyl ether	406-78-0	AEL: 50ppm (8hr-TWA) EEL: 150ppm (1hr-TWA)

ENGINEERING CONTROLS:	Provide appropriate local exhaust when product is heated.
VENTILATION:	Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLVs.
RESPIRATORY PROTECTION:	A (US: NIOSH; EU: EN 140:1998, EN 14387:2004 A)-approved air-purifying respirator with fume/organic chemical cartridge should be worn when airborne concentrations may be exceeded. General and local exhaust ventilation is the preferred means of protection.
EYE PROTECTION:	Use with appropriate eye protection: Goggles or face shield (EU: EN 166-S 3 9).
SKIN PROTECTION:	Protective gloves (solvent resistant) should be worn when the possibility of skin contact exists (EU: EN 374-1:2003).
PROTECTIVE CLOTHING OR EQUIPMENT:	Wear suitable protective clothing.
WORK HYGIENIC PRACTICES:	Cosmetics/Food/Drink/Tobacco should not be consumed or used in areas where solder products may be used. Always wash hands after handling solvents and before applying or using cosmetics/food/drink/tobacco.
OTHER:	Maintain eye wash stations in work areas. Avoid the use of contact lenses in high fume areas. Clean protective equipment regularly. Clean upspills immediately.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	Liquid
APPEARANCE:	Colorless
ODOR:	Ether-like
ODOR THRESHOLD:	Not Established
pH as SUPPLIED:	Neutral
MELTING POINT:	Not Established
FREEZING POINT:	Not Established
INITIAL BOILING POINT:	61°C (100.4°F)
BOILING RANGE:	61-62 °C
FLASH POINT:	None
EVAPORATION RATE:	49 (BUOAC=1)
VAPOR PRESSURE:	269 hPa
RELATIVE DENSITY:	1.5-1.6 g/ml
SOLUBILITY IN WATER:	Slightly Soluble
AUTOIGNITION TEMPERATURE:	405 °C
VISCOSITY:	No Data

10. STABILITY AND REACTIVITY

STABILITY:	Stable
CONDITIONS TO AVOID (STABILITY):	Not Established
INCOMPATIBILITY (MATERIAL TO AVOID):	Strong Acids, Strong Bases, Strong Oxidizing agents
HAZARDOUS DECOMPOSITION/BY-PRODUCTS:	Exposure to extreme heat can cause thermal decomposition. Carbon Monoxide, Carbon Dioxide, Hydrogen Fluoride, Fluorinated Hydrocarbons, Carbonyl Fluoride, Carbon oxides, Hydrogen Chloride.

11. TOXICOLOGICAL INFORMATION

INHALATION:
Vapors from heated material may cause irritation of the respiratory system. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

SKIN:
Contact with skin during product use is not expected to result in significant irritation.

EYES:
Exposure to heated material may cause Eye Irritation.

ACUTE TOXICITY:

Product/Ingredient Name	Result	Species	Dose	Exposure
1,1,2,2-Tetrafluoroethyl-2,2,2-trifluoroethyl ether	LD50 Oral LD50 Dermal	Rat	2000mg/kg	-

SKIN CORRISSION/IRRITATION:	No significant irritation
SERIOUS EYE DAMAGE/IRRITATION:	No significant irritation
RESPIRATORY OR SKIN SENSITIZATION:	Not Established
GERM CELL MUTAGENICITY:	Not Mutagenic

CARCINOGENICITY:	Not Established
REPRODUCTIVE TOXICITY:	Not toxic to female or male reproduction.
STOT-SINGLE EXPOSURE:	Not Established
STOT-REPEATED EXPOSURE:	Not Established
ASPIRATION HAZARD:	Not Established

12. ECOLOGICAL INFORMATION

Ecotoxicity:	No Data Available
Persistence and degradability:	No Data Available
Bio accumulative potential:	No Data Available
Mobility in Soil:	No Data Available
Other Adverse Effects:	No Data Available
WASTE DISPOSAL METHOD:	Scrap and waste should be recycled or stored in a dry, sealed container for later disposal. Disposal must be in accordance with Federal, State/Provincial, and Local Regulations.

13. DISPOSAL INFORMATION

Disposal Methods:	Should be taken to authorized industrial waste handler.
Uncleaned Packaging:	Dispose of as unused product according to official regulations.

14. TRANSPORT INFORMATION

Transport in accordance with applicable regulations and requirements.

UN Number:	Not available
UN Proper Shipping Name:	Not available
Packaging Group:	Not applicable
Environmental Hazards:	None

TRANSPORT HAZARD CLASSES:

US DOT Hazardous Material Classification:	Non-Hazardous
Water Transportation:	Non-Hazardous
IATA Hazardous Material Classification:	Non-Hazardous
ADR Road Regulations	Not regulated
IMDG Sea Regulations	Not regulated
ADG Land Transportation	Not regulated

15. REGULATORY INFORMATION

All ingredients used to manufacture this product are listed on the EPA TSCA Inventory. Finished product is not listed on the EPA TSCA Inventory.

U.S. FEDERAL REGULATIONS:	Not regulated
STATE REGULATIONS:	Not regulated
INTERNATIONAL REGULATIONS:	Not regulated
AUSTRALIAN REGULATIONS:	Not regulated

16. OTHER INFORMATION

LEGEND:

ACGIH	American Conference of Governmental Industrial Hygienists
ADG	Australian Dangerous Goods Code
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AICS	Australian Inventory of Chemical Substances
BCF	Bioconcentration factor
C.A.S.	Chemical Abstract Service
CLP	Classification, Labeling and Packaging
DOT	Department of Transportation
EC	Effective Concentration
EPA	Environmental Protection Agency
GHS	Global Harmonized System
HMIS	Hazardous Material Identification System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods Code
LC	Lethal Concentration
LD	Lethal Dose
NA	Not available
NE	Not established
NIOSH	National Institute for Occupational Safety & Health
NOEC	No observed effective concentration
NOHSC	National Occupational Health and Safety Commission (Australia)
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
P_{ow}	Octanol water partition coefficient
SDS	Safety Data Sheet
STEL	Short-Term Exposure Limit
STOT	Specific target organ toxicity
TLV	Threshold Limit Value

TSCA	Toxic Substance Control Act
TWA:	Time Weighted Average
US DOT:	United States Department of Transportation

PREPARATION INFORMATION:

This update supersedes all previously released documents.

DISCLAIMER:

The information and recommendations contained within this publication have been compiled from sources believed to be reliable and to represent the best information available to Chip Quik at the time of issue. No warranty, guarantee, or representation is made by Chip Quik nor does Chip Quik assume any responsibility in connection there within; nor can it be assumed that all acceptable safety measures or other safety measures may not be required under particular or exceptional conditions or circumstances. The data on this Safety Data Sheet relates only to this product and does not relate to use with any other material or in any process. All chemical products should be used only by, or under the direction of, technically qualified personnel who are aware of the hazards involved and necessity for reasonable care in handling. Hazard communication regulations require that employees must be trained on how to use a Safety Data Sheet as a source for hazard information.

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