CHIPQUIK® Thermal Paste

Safety Data Sheet (SDS)

www.chipquik.com

To comply with European CLP Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2020/878, 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 Thermal Paste: TC1
SYNONYMS: Heat Sink Compound
PART NUMBERS: TC1-10G, TC1-20G, TC1-200G, TC1-10LB, TC1-20LB

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REVISION NUMBER: 1.8
REVISED BY: Chip Quik Product Safety

PRODUCT USE: Mounting heat sinks, fills gaps and imperfections to improve thermal transfer.

2. HAZARD IDENTIFICATION

Classified in accordance with European CLP Regulation 1272/2008

Aquatic Acute	1	H400
Aquatic Chronic	1	H410

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

GHS/CLP LABEL ELEMENTS:

Hazard statement(s)
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)
P273 Avoid release to the environment.
P391 Collect spillage.

OTHER HAZARDS:
None known.

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

Hazardous Ingredients (1)	C.A.S. Number	Weight Percent	OSHA PEL	ACGIH TLV TWA	LD 50 Ingested	LD 50 Inhaled

			mg/m^3	mg/m^3	g/Kg	g/m^3
Zinc Oxide	1314-13-2	50-70	NE	NE	NE	NE

SECTION 3 NOTES:
(1) Per 29 CFR 1910 the mixture has not been tested as a whole. All hazardous components, which comprise 1% of the mixture (0.1% carcinogenic), are listed. Percentages of individual components are not listed as this information is considered a trade secret.

4. FIRST-AID MEASURES

Emergency first aid procedures:

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: Call a physician or Poison Control Center immediately. Do not induce vomiting. Drink large amounts of water. Never give anything by mouth to an unconscious person

INHALATION: Remove to fresh air. Support respiration if required. If not breathing, seek immediate medical attention.

5. FIREFIGHTING MEASURES

EXTINGUISHING MEDIA: Dry chemical, foam
Alcohol-resistant foam
Carbon Dioxide (CO2)
Water Spray

SPECIAL FIRE FIGHTING PROCEDURES: Use NIOSH-approved self-contained Breathing Apparatus and full protective clothing if involved in a fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS: May release toxic metal oxides, carbon oxides, silicon oxides and formaldehyde.

6. ACCIDENTAL RELEASE MEASURES

PRECAUTIONS AND EQUIPMENT: Material is extremely thick and will not flow out.

ACCIDENTAL RELEASE MEASURES: If material spills or leaks use a spatula to collect and place it in a plastic or glass jar. Remove traces of residue using cloth rags or paper towels. 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 or dust. 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:
Keep out of reach of children.
Not for internal consumption.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance Name	End Use	Exposure Route	Potential Health Effects	Value
Zinc Oxide	Workers	Skin Contact	Long-term systemic effects	83 mg/kg bw/day
	Workers	Inhalation	Long-term systemic effects	5 mg/kg bw/day
	Consumers	Skin Contact	Long-term systemic effects	83 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	2.5 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	0.83 mg/kg bw/day

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance Name	Environmental Compartment	Value
Zinc Oxide	Fresh Water	20.6 µg/l
	Marine Water	6.1 µg/l

	Sewage Treatment Plant	52 µg/l
	Fresh Water Sediment	117.8 mg/kg
	Marine Sediment	56.5 mg/kg
	Soil	35.6 mg/kg

Also see section 3.

ENGINEERING CONTROLS: Use only with production equipment designed for use with thermal paste.

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 should be worn when the possibility of skin contact exists (EU: EN 374-1:2003).

PROTECTIVE CLOTHING OR EQUIPMENT: Work clothes should be worn and laundered in accordance with current standards (US: OSHA).

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 soldering products 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 up spills immediately.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	White paste
ODOR:	Odorless
ODOR THRESHOLD:	NE
pH as SUPPLIED:	NA
MELTING POINT:	NA
FREEZING POINT:	NA
INITIAL BOILING POINT:	NA
BOILING RANGE:	NA
FLASH POINT:	NA
EVAPORATION RATE:	NA
FLAMMABILITY (solid):	NE
UPPER/LOWER FLAMMABILITY:	NE
UPPER/LOWER EXPLOSIVE LIMITS:	NE
VAPOR PRESSURE (mmHg):	NA
VAPOR DENSITY (AIR = 1):	NA
RELATIVE DENSITY:	2.0
SOLUBILITY IN WATER:	NA
PARTITION COEFFICIENT (n-octanol/water):	NE
AUTOIGNITION TEMPERATURE:	NE
DECOMPOSITION TEMPERATURE:	NE
VISCOSITY:	NA

9.2 Other Information
9.2.1 Information with regard to physical hazard classes
No additional information available.
9.2.2 Other safety characteristics
No additional information available.

10. STABILITY AND REACTIVITY

STABILITY:	Stable under normal conditions
CONDITIONS TO AVOID (STABILITY):	NE
INCOMPATIBILITY (MATERIAL TO AVOID):	Oxidizing materials, acids, hydrogen peroxide, bases
HAZARDOUS DECOMPOSITION/BY-PRODUCTS:	Harmful organic fumes and toxic oxide fumes may form at elevated temperatures. Formaldehyde.
POSSIBILITY OF HAZARDOUS REACTIONS:	Use at elevated temperatures may form highly hazardous compounds. Can react with strong oxidizing agents. Hazardous decomposition products will be formed at elevated temperatures.

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Skin Contact
Ingestion
Eye Contact

ACUTE TOXICITY:	NE
SKIN CORRISION/IRRITATION:	NE
SERIOUS EYE DAMAGE/IRRITATION:	NA
RESPIRATORY OR SKIN SENSITIZATION:	NE
GERM CELL MUTAGENICITY:	NA
CARCINOGENICITY:	

OSHA: NA	**ACGIH:** NA	**NTP:** NA	**IARC:** NA

REPRODUCTIVE TOXICITY: NA
STOT-SINGLE EXPOSURE: NA
STOT-REPEATED EXPOSURE: NA
ASPIRATION HAZARD: NA

11.2 Information on other hazards:
11.2.1 Endocrine disrupting properties:
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
11.2.2 Other information:
To the best of our knowledge, the information contained herein is accurate. However, neither the above-named manufacturer, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SECTION 11 NOTES:
This product has not been tested as a whole to determine its hazards. Synergistic or additive effects of the above chemicals are unknown, as are the effects of exposure to these chemicals in addition to others present in the work place. See Section 2 for additional health hazards.

12. ECOLOGICAL INFORMATION

TOXICITY: NE
PERSISTENCE AND DEGRADIBILITY: NE
BIOACCUMULATIVE POTENTIAL:

Product/Ingredient Name	$LogP_{ow}$	BCF	Potential
Zinc Oxide	-	177	Low

MOBILITY IN SOIL: NE
RESULT OF PBT and vPvB ASSESSMENT: NA
12.6 Endocrine Disrupting Properties: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher
12.7 OTHER ADVERSE EFFECTS: No known significant effects or critical hazards

13. DISPOSAL CONSIDERATIONS

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.

OTHER PRECAUTIONS: Avoid skin & eye contact, inhalation & ingestion of fumes and material. Wash contaminated clothing before reuse. Keep away from children.

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 (≤ 900,000g per shipment)
Water Transportation: Non-Hazardous
IATA Hazardous Material Classification: Non-Hazardous (≤ 30,000g per shipment)
ADR Road Regulations Not regulated
IMDG Sea Regulations Not regulated (≤ 30,000g per shipment)
ADG Land Transportation Not regulated

15. REGULATORY INFORMATION

United States Regulatory Information:
TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act (TSCA) Inventory.
TSCA 12 (b) Export Notification: Not required.

Canada Regulatory Information:
CEPA DSL/NDSL Status: All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

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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