

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 Liquid Flux Series: CQ2LF, CQ4LF
SYNONYMS:
PART NUMBERS: CQ2LF, CQ2LF-0.5, CQ2LF-1.0, CQ2LF-16, CQ2LF-128, CQ4LF, CQ4LF-0.5, CQ4LF-1.0, CQ4LF-16, CQ4LF-128, CQ2LF-B-R, CQ4LF-B-R, CQ2LF-2S, CQ2LF-4S, CQ4LF-2S, CQ4LF-4S

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REVISION NUMBER: 4.8
REVISED BY: Chip Quik Product Safety

PRODUCT USE: Bonding solder joints in production and repair of circuit boards.

2. HAZARD IDENTIFICATION

Classified in accordance with European CLP Regulation 1272/2008

| | | | |
|---|---|------|------|
| Acute Toxicity (oral) | 4 | H302 | |
| Acute Toxicity (dermal) | 4 | H312 | |
| Acute Toxicity (inhalation) | 4 | H332 | |
| Eye Irritant | 2 | H319 | |
| Skin Irritant | 2 | H315 | |
| Skin Sensitization | 1 | H317 | |
| Specific Target Organ Toxicity (STOT) – Single Exposure (SE) Respiratory Tract Irritation | 3 | | H335 |

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)

| | |
|------|--------------------------------------|
| H302 | Harmful if swallowed. |
| H312 | Harmful in contact with skin. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |
| H335 | May cause respiratory irritation. |

Precautionary statement(s)

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| P102 | Keep out of reach of children. |
| P201 | Obtain special instructions before use. |

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|--------------------------|---|
| P202 | Do not handle until all safety precautions have been read and understood. |
| P233 | Keep container tightly closed. |
| P260 | Do not breathe dust/fume/gas/mist/vapor/spray. |
| P262 | Do not get in eyes, on skin, or on clothing. |
| P264 | Wash hands thoroughly after handling. |
| P270 | Do not eat, drink, or smoke when using this product. |
| P271 | Use in a well-ventilated area. |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P284 | In case of inadequate ventilation wear respiratory protection. |
| P301/P330/P331/P310 | IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. Immediately call a POISON CENTER/Doctor. |
| P303/P361/P352/P333/P313 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Wash with soap & water. Get medical advice/attention if skin irritation or rash occurs or if you feel unwell. |
| P304/P340/P312 | IF INHALED: Remove victim to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. |
| P305/P351/338/P310 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call POISON CENTER/Doctor. |
| P308/P313 | IF EXPOSED OR CONCERNED: Get medical advice/attention. |
| P342/P311 | IF EXPERIENCING RESPIRATORY SYMPTOMS: Call POISON CENTER/Doctor. |
| P362 | Take off contaminated clothing and wash it before reuse. |
| P391 | Collect spillage. |
| P402/P404 | Store in a dry place. Store in a closed container. |
| P405 | Store locked up. |
| P501 | Dispose of contents/container in accordance with local/regional/national/international regulations. |

POTENTIAL HEALTH EFFECTS:

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|----------------------|--|
| EYE CONTACT: | May cause moderate irritation. Do not allow material to come in contact with eyes. |
| SKIN CONTACT: | May cause moderate skin irritation. |
| INHALATION: | May cause irritation to the respiratory tract. |
| INGESTION: | Harmful if swallowed. May cause irritation to the mouth, throat, and stomach. May cause abdominal discomfort, nausea, vomiting, and/or diarrhea. |
| CHRONIC: | Not established. |

MEDICAL CONDITIONS POSSIBLY AGGRAVATED BY EXPOSURE: Diseases of the blood-forming organs, kidneys, nervous and possibly reproductive systems. Occupational Asthma.

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 mg/m ³ | ACGIH TLV TWA mg/m ³ | LD 50 Ingested g/Kg | LD 50 Inhaled g/m ³ |
|--|---------------|----------------|-------------------------------|------------------------------------|------------------------|-----------------------------------|
| Glutamic Acid Hydrochloride ⁽²⁾ | 138-15-8 | <10 | NE | NE | NE | NE |
| Glycol Ether | 107-98-2 | <3 | NE | NE | NE | NE |
| Mixed Carboxylic Acids (Carboxylic Acid) ⁽²⁾ | 68937-69-9 | <3 | NE | NE | NE | NE |

| Non-Hazardous Ingredients | C.A.S. Number | Weight Percent | OSHA PEL mg/m ³ | ACGIH TLV TWA mg/m ³ | LD 50 Ingested g/Kg | LD 50 Inhaled g/m ³ |
|---------------------------|---------------|----------------|-------------------------------|------------------------------------|------------------------|-----------------------------------|
| Water | 7732-18-5 | <90 | NE | NE | NE | NE |
| Surfactants | NA | <4 | NE | NE | NE | NE |
| Rheological Modifier | NA | <5 | 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.

(2) The identity of the specific chemical(s) is being withheld as a trade secret per 29 CFR 1910.1200. The hazardous properties of these ingredients are disclosed in this SDS.

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: Call a physician or Poison Control Center immediately. Do not induce vomiting.

INHALATION: Remove to fresh air. If not breathing, seek immediate medical attention.

5. FIREFIGHTING MEASURES

EXTINGUISHING MEDIA: Dry chemical, foam

SPECIAL FIRE FIGHTING PROCEDURES: Do not use water. Use NIOSH-approved self-contained Breathing Apparatus and full protective clothing if involved in a fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS: This product does not present any unusual fire and explosion hazards.

6. ACCIDENTAL RELEASE MEASURES

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 moistened with Isopropyl Alcohol. 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 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

Occupational Exposure Limit Values:

Carboxylic Acid fumes

OSHA Permissible Exposure Limit (PEL): 5 mg/m³

ACGIH Threshold Limit Value (TLV): 5 mg/m³

Extraction is necessary to remove fumes evolved during reflow.

Also see section 3.

ENGINEERING CONTROLS: Use only with production equipment designed for use with liquid flux.

VENTILATION: Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLVs.

RESPIRATORY PROTECTION: Use with adequate ventilation.

EYE PROTECTION: Use with appropriate safety glasses.

SKIN PROTECTION: Protective gloves.

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

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

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|--------------------------------------|--|
| APPEARANCE: | Clear, White, or Yellow to Dark Amber liquid |
| ODOR: | Mild odor |
| ODOR THRESHOLD: | NE |
| pH as SUPPLIED: | N/A |
| MELTING POINT: | NE |
| FREEZING POINT: | NE |
| INITIAL BOILING POINT: | NE |
| BOILING RANGE: | 104°C (220°F) |
| FLASH POINT: | NE |
| EVAPORATION RATE: | NE |
| FLAMMABILITY (solid): | NE |
| UPPER/LOWER FLAMMABILITY: | NE |
| UPPER/LOWER EXPLOSIVE LIMITS: | NE |

| | |
|--|-----------|
| VAPOR PRESSURE (mmHg): | 14 |
| VAPOR DENSITY (AIR = 1): | N/A |
| RELATIVE DENSITY: | NE |
| SOLUBILITY IN WATER: | Partially |
| PARTITION COEFFICIENT (n-octanol/water): | NE |
| AUTOIGNITION TEMPERATURE: | NE |
| DECOMPOSITION TEMPERATURE: | NE |
| VISCOSITY: | N/A |

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

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|--------------------------------------|--|
| STABILITY: | Stable |
| 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. |
| POSSIBILITY OF HAZARDOUS REACTIONS: | NE |

11. TOXICOLOGICAL INFORMATION

INHALATION:

This product does not present a risk at ambient temperatures. The flux fumes evolved during soldering will irritate the nose, throat and lungs. Repeated or prolonged exposure to flux fumes may cause an allergic affect which may lead to occupational asthma.

SKIN:

Contact with flux fumes and flux residues may cause irritation and sensitization.

EYES:

Flux fumes may cause irritation.

| | |
|------------------------------------|---------------|
| ACUTE TOXICITY: | Not available |
| SKIN CORRISSION/IRRITATION: | Not available |
| SERIOUS EYE DAMAGE/IRRITATION: | Not available |
| RESPIRATORY OR SKIN SENSITIZATION: | NE |
| GERM CELL MUTAGENICITY: | Not available |
| CARCINOGENICITY: | Not available |
| REPRODUCTIVE TOXICITY: | Not available |
| STOT-SINGLE EXPOSURE: | Not available |
| STOT-REPEATED EXPOSURE: | NE |
| ASPIRATION HAZARD: | NE |

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.

12. ECOLOGICAL INFORMATION

| | |
|---------------------------------------|--|
| TOXICITY: | Not available |
| PERSISTENCE AND DEGRADIBILITY: | NE |
| BIOACCUMULATIVE POTENTIAL: | Not available |
| MOBILITY IN SOIL: | NE |
| RESULT OF PBT and vPvB ASSESSMENT: | Not applicable |
| 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.

14. TRANSPORT INFORMATION

Product contains no components that are above dangerous goods toxic thresholds and therefore is not regulated for transport.

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

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.

