

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 Flux Remover Series: CQNIRM, COSOLV55
SYNONYMS:
PART NUMBERS: CQNIRM, CQNIRM-0.5, CQNIRM-1.0, COSOLV55-1L, COSOLV55-5GAL, COSOLV55-55GAL, COSOLV55-1.0
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REVISION DATE: 2023/12/13
REVISION NUMBER: 2.2
REVISED BY: Chip Quik Product Safety
PRODUCT USE: Removing flux from circuit boards.

2. HAZARD IDENTIFICATION

Classified in accordance with European CLP Regulation 1272/2008

| | | | |
|---|---|------|------------|
| Acute Toxicity (oral) | 4 | H302 | |
| Acute Toxicity (dermal) | 4 | H317 | |
| Eye Irritant | 2 | H319 | |
| Skin Sensitization | 1 | H317 | |
| Specific Target Organ Toxicity (STOT) – Single Exposure (SE) Respiratory Tract Irritation | 3 | | H332, 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. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |
| H335 | May cause respiratory irritation. |
| H336 | May cause drowsiness or dizziness |

Precautionary statement(s)

| | |
|------|---|
| P102 | Keep out of reach of children. |
| P201 | Obtain special instructions before use. |
| P202 | Do not handle until all safety precautions have been read and understood. |
| P261 | 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. |
| 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/P338/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:

| | |
|----------------------|--|
| EYE CONTACT: | May cause moderate irritation. Do not allow material to come into contact with eyes. |
| SKIN CONTACT: | May cause moderate skin irritation. |
| 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: 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.

Other hazards not contributing to the classification: Combustible liquid.

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 |
|---|---------------|----------------|-------------------------------|------------------------------------|------------------------|-----------------------------------|
| 1,1,2,2-tetrafluoroethyl- 2,2,2-trifluoroethyl ether | 406-78-0 | <95 | NE | NE | NE | NE |
| Isopropyl Alcohol | 67-63-0 | <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.

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 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:

Keep out of reach of children.

Not for internal consumption.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limit Values:

| | |
|--|-----------------|
| 1,1,2,2-tetrafluoroethyl-2,2,2-trifluoroethyl ether | 406-78-0 |
| OSHA (US) | - |
| ACGIH | - |
| NIOSH | - |

| | |
|--------------------------|---|
| Isopropyl Alcohol | 67-63-0 |
| Austria | 200 ppm TWA [TMW] (short time value for large casting); 500 mg/m3 TWA [TMW] (short time value for large casting) 800 ppm STEL [KZW] 4 X 15 min; 2000 mg/m3 STEL [KZW] 4 X 15 min; 800 ppm STEL [KZW] (STEL for large casting valid till 12/31/2013) 4 X 30 min; 2000 mg/m3 STEL [KZW] (STEL for large casting valid till 12/31/2013) 4 X 30 min |
| Belgium | 200 ppm TWA; 500 mg/m3 TWA 400 ppm STEL; 1000 mg/m3 STEL |
| Denmark | 200 ppm TWA; 490 mg/m3 TWA |
| Finland | 200 ppm TWA; 500 mg/m3 TWA 250 ppm STEL; 620 mg/m3 STEL |
| France | 400 ppm STEL [VLCT]; 980 mg/m3 STEL [VLCT] |
| Germany (TRGS) | 200 ppm TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) exposure factor 2; 500 mg/m3 TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed) exposure factor 2 |
| Germany (DFG) | 200 ppm TWA MAK; 500 mg/m3 TWA MAK 400 ppm Peak; 1000 mg/m3 Peak |
| Greece | 400 ppm TWA; 980 mg/m3 TWA 500 ppm STEL; 1225 mg/m3 STEL |
| Ireland | 200 ppm TWA 400 ppm STEL Potential for cutaneous absorption |
| Portugal | 200 ppm TWA [VLE-MP] 400 ppm STEL [VLE-CD] |
| Spain | 200 ppm TWA [VLA-ED] (it is prohibited the partial or complete commercialization or use of this substance as a phytosanitary or biocide compound); 500 mg/m3 TWA [VLA-ED] (it is prohibited the partial or complete commercialization or use of this substance as a phytosanitary or biocide compound) 400 ppm STEL [VLA-EC]; 1000 mg/m3 STEL [VLA-EC] |
| Sweden | 150 ppm LLV; 350 mg/m3 LLV 250 ppm STV; 600 mg/m3 STV |
| United Kingdom | 400 ppm TWA; 999 mg/m3 TWA 500 ppm STEL; 1250 mg/m3 STEL |
| ACGIH | 200 ppm TWA 400 ppm STEL |
| NIOSH | 400 ppm TWA; 980 mg/m3 TWA 500 ppm STEL; 1225 mg/m3 STEL 2000 ppm IDLH (10% LEL) |
| OSHA (US) | 400 ppm TWA; 980 mg/m3 TWA |
| Mexico | 400 ppm TWA LMPE-PPT; 980 mg/m3 TWA LMPE-PPT 500 ppm STEL [LMPE-CT]; 1225 mg/m3 STEL [LMPE-CT] |

Also see section 3.

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

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: 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 up spills immediately.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|-----------------------|
| APPEARANCE: | Clear liquid |
| ODOR: | Ether |
| ODOR THRESHOLD: | NE |
| pH as SUPPLIED: | N/A |
| MELTING POINT: | -90°C |
| FREEZING POINT: | NE |
| INITIAL BOILING POINT: | 53.7°C |
| BOILING RANGE: | NE |
| FLASH POINT: | Non-Flammable (T.C.C) |
| EVAPORATION RATE: | 66 |
| FLAMMABILITY (solid): | NE |
| UPPER/LOWER FLAMMABILITY: | NE |
| UPPER/LOWER EXPLOSIVE LIMITS: | NE |
| VAPOR PRESSURE: | 28 kPa |
| VAPOR DENSITY (AIR = 1): | N/A |
| RELATIVE DENSITY: | NE |
| SOLUBILITY IN WATER: | 5300ppm |
| 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

| | |
|---|---|
| STABILITY: | Stable |
| CONDITIONS TO AVOID (STABILITY): | NE |
| INCOMPATIBILITY (MATERIAL TO AVOID): | Incompatible with alkali or alkaline earth metals-powdered Al, Zn, Be, etc. Avoid contamination with caustic soda, caustic potash or oxidizing materials. |
| HAZARDOUS DECOMPOSITION/BY-PRODUCTS: | Harmful organic fumes and toxic oxide fumes may form at elevated temperatures. |
| POSSIBILITY OF HAZARDOUS REACTIONS: | Carbon Oxides (CO, CO ₂) |

11. TOXICOLOGICAL INFORMATION

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Isopropyl alcohol (67-63-0)

Oral LD50 Rat 5045 mg/kg

Dermal LD50 Rabbit 12800 mg/kg

Inhalation LC50 Rat 1600 ppm 4 h

Component Carcinogenicity

| | |
|-------------------|--|
| Isopropyl alcohol | 67-63-0 |
| ACGIH | A4 - Not Classifiable as a Human Carcinogen |
| IARC | Monograph 71 [1999]; Supplement 7 [1987]; Monograph 15 [1977] (Group 3 (not classifiable)) |

INHALATION:

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

SKIN:

Can cause Skin Irritation

EYES:

Causes Mild Eye Irritation.

ACUTE TOXICITY:

| Product/Ingredient Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|-------------------|-------------------|----------------------------|
| 1,1,2,2-tetrafluoroethyl-2,2,2-trifluoroethyl ether | >2000mg/kg in rat | >2000mg/kg in rat | >24.8mg/L (3010ppm) in rat |

| | |
|---|---------------|
| SKIN CORRISSION/IRRITATION: | Not available |
| SERIOUS EYE DAMAGE/IRRITATION: | Not available |
| RESPIRATORY OR SKIN SENSITIZATION: | NE |
| GERM CELL MUTAGENICITY: | 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

Component Analysis - Aquatic Toxicity:

| | |
|-------------------|--|
| Isopropyl Alcohol | 67-63-0 |
| Fish | LC50 96 h Pimephales promelas 9640 mg/L [flow-through]; LC50 96 h Pimephales promelas 11130 mg/L [static]; LC50 96 h Lepomis macrochirus >1400000 µg/L |
| Algae | EC50 96 h Desmodesmus subspicatus >1000 mg/L IUCLID; EC50 72 h Desmodesmus subspicatus >1000 mg/L IUCLID |
| Invertebrate | EC50 48 h Daphnia magna 13299 mg/L IUCLID |

TOXICITY: Not available

PERSISTENCE AND DEGRADABILITY: 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

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/NDL 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 therewith; 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.