

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 Tacky Flux Series: SMD291, SMD291NL, SMD4300, SMDLT, RMA591, RMA591NL, SMD491, SGF991, NCP291
SYNONYMS: Tack Flux, Gel Flux, Paste Flux
PART NUMBERS: SMD191, SMD191_3CC, SMD291, SMD291_3CC, SMD29130CC, SMD2915CC, SMD291NL, SMD4300, SMD4300TF10, SMD4300TF30, SMD291ST2CC6, SMD291ST8CC, SMD29175G, SMD291150G, SMD291NL75G, SMD291NL150G, SMD430075G, SMD4300150G, SMDLT75G, SMDLT150G, SMD1(flux), SMD1NL(flux), SMD2000(flux), SMD6000(flux), SMDST2CC4, RMA591, RMA591NL, SMD491, NC191, NC191-30CC, NC191-2CC6, SMDLT, SMDLT10, WS991, CQ4300-2OZ, SMD291-5M, SMD291-10M, SMD291NL-5M, SMD291NL-10M, SMDLT-5M, SMDLT-10M, SMD491-5M, SMD491-10M, RMA591-5M, RMA591-10M, RMA591NL-5M, RMA591NL-10M, SMD4300-5M, SMD4300-10M, WS991-5M, WS991-10M, NC551-3CC, NC551-5CC, NC551-10CC, NC551-30CC, NC551-3M, NC551-5M, NC551-10M, SGF991-5CC, SGF991-10CC, SGF991-30CC, NC191-5M, NC191-10M, NI3300-5M, NI3300-10M, NCP291-2OZ, SMDLTLFP15T4(flux), SMDLTLFP60T4(flux), SMDLTLFP250T4-2MIX(flux), SMD291SNL15T4(flux), SMD291SNL60T4(flux), SMD291SNL250T4-2MIX(flux), NI3300LTLFP15T3(flux), NI3300LTLFP60T3(flux), NI3300LTLFP250T3(flux), NI3300SNL15T3(flux), NI3300SNL60T3(flux), NI3300SNL250T3(flux), SMD291NL10CC, SMD291NL30CC, SMD291NLST2CC6, SMD4300ST2CC6, SMDLTST2CC6, WS995, SMDIN52SN48(flux), NC19175G, NC191150G

MANUFACTURER: Chip Quik Inc.
ADDRESS: 931-3909 Witmer Rd., Niagara Falls, NY 14305 (USA)
 3rd Floor, 207 Regent Street, London W1B 3HH (UK)
 13 Adelaide Road, Dublin, Ireland, D02 P950 (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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REVISED BY: Chip Quik Product Safety

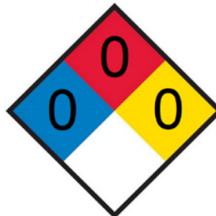
PRODUCT USE: Bonding solder joints in production and repair of circuit boards.

2. HAZARD IDENTIFICATION

HMIS® RATING

HEALTH:	0
FLAMMABILITY:	0
PHYSICAL HAZARD:	0
PERSONAL PROTECTION:	0

NFPA® 704 CODES:



HMIS® and NFPA® Risk Ratings Legend: 0 (Low or None), 1 (Slight), 2 (Moderate), 3 (Serious), 4 (Severe)

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)

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.
 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/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 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
Modified Rosins (Rosin) ⁽²⁾	8050-09-7	<45	NE	NE	NE	NE
Pine Oil Derivatives (Terpineol)	8000-41-7	<5	NE	NE	NE	NE
Mixed Carboxylic Acids (Maleic Acid) ⁽²⁾	110-16-7	<4	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
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:**

Rosin flux fumes (as total resin acids)

MEL: 0.05 mg/m³ 8h TWA.

MEL: 0.15 mg/m³ 15 min.

Extraction is necessary to remove fumes evolved during reflow.

Also see section 3.

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

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 Lead (Pb) 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:	Clear, White, or Yellow to Dark Amber gel
ODOR:	Mild odor
ODOR THRESHOLD:	NE
pH as SUPPLIED:	N/A
MELTING POINT:	NE
FREEZING POINT:	NE
INITIAL BOILING POINT:	NE
BOILING RANGE:	NE
FLASH POINT:	NE
EVAPORATION RATE:	NE
FLAMMABILITY (solid):	NE
UPPER/LOWER FLAMMABILITY:	NE
UPPER/LOWER EXPLOSIVE LIMITS:	NE
VAPOR PRESSURE (mmHg):	N/A
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

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:

Product/Ingredient Name	Result	Species	Dose	Exposure
Rosin	LD50 Oral	Rat	7600 mg/kg	-
Terpineol	LD50 Oral	Rat	2000 mg/kg	-
	LD50 Inhalation	Rat	4.76 mg/l	4 hours
	LD50 Dermal	Rat	2000 mg/kg	-
Maleic acid	LD50 Oral	Rat	708 mg/kg	Remarks: Behavioral: Convulsions or effect on seizure threshold. Behavioral: Muscle weakness. Gastrointestinal: Ulceration or bleeding from stomach.
	LD50 Inhalation LD 50 Dermal	Rat Rabbit	720 mg/m ³ 1560 mg//kg	1 hour Remarks: Behavioral: Tremor

SKIN CORRISSION/IRRITATION: Not available

SERIOUS EYE DAMAGE/IRRITATION:

Product/Ingredient	Result	Species	Score	Exposure	Observation
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Name					
Maleic acid	Eyes – Severe Irritant	Rabbit	-	2 minutes 1 percent	-

RESPIRATORY OR SKIN SENSITIZATION: NE
GERM CELL MUTAGENICITY: Not available
CARCINOGENICITY:

OSHA: N/A	ACGIH: N/A	NTP: N/A	IARC: N/A
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REPRODUCTIVE TOXICITY: Not available

STOT-SINGLE EXPOSURE:

Product/Ingredient Name	Category	Route of exposure	Target organs
Maleic acid	Category 3	Not applicable	Respiratory tract irritation

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.

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:

Product/Ingredient Name	Result	Species	Exposure
Rosin	Acute LC50 60.3 mg/l Fresh water	Brachydanio rerio (zebra fish)	96 hours
Terpineol	Acute LC50 62.80 mg/l Fresh water	Danio rerio (zebra fish)	96 hours
	Acute LC50 68 mg/l Marine water	Algae – Pseudokirchneriella subcapitata (green algae)	72 hours
Maleic acid	Acute EC50 316200 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
	Acute LC50 5000 µg/l Fresh water	Fish - Pimephales promelas	96 hours

PERSISTENCE AND DEGRADABILITY: NE

BIOACCUMULATIVE POTENTIAL:

Product/Ingredient Name	LogP _{ow}	BCF	Potential
Rosin	1.9 to 7.7	-	High
Terpineol			NE
Maleic acid	-1.3	-	Low

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.