

## Safety Data Sheet (SDS)

[www.chipquik.com](http://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 Leaded Solder Paste Series: SMD291AX, SMD4300AX, TS391AX, NC191AX, RMA591AX, RMA591AXS  
**UFI:** 1P00-X05M-4009-PWN8  
**SYNONYMS:** Paste, Solder Cream  
**PART NUMBERS:** SMD291AX, SMD291AX10, SMD291AX10T4, SMD291AX10T5, SMD291AX50T3, SMD291AX250T3, SMD291AX250T4, SMD291AX250T5, SMD291AX500T3, SMD291AX500T5, SMD4300AX10, SMD4300AX10T4, SMD4300AX10T5, SMD4300AX250T3, SMD4300AX250T4, SMD4300AX250T5, SMD291AX500T3C, SMD291AX500T4C, SMD291AX500T5C, SMD4300AX500T3C, SMD4300AX500T4C, SMD4300AX500T5C, TS391AX, TS391AX10, TS391AX50, TS391AX250, TS391AX500C, SMD291AXT4, SMD291AXT5, SMD4300AX500T3, NC191AX15, NC191AX35, NC191AX50, NC191AX250, NC191AX15T5, NC191AX35T5, NC191AX50T5, NC191AX250T5, NC191AX500C, NC191AX500T5C, TS991AX500T4, WS991AX500T4, TS991AX35T4, WS991AX35T4, RMA591AX, RMA591AX10, RMA591AX250, RMA591AX500C, RMA591AX50, RMA591AXS, RMA591AXS10, RMA591AXS250, RMA591AXS500C, RMA591AXS50, RMA591SNPBB1-100S, JET551AX10T5, JET551AX30T5, SMD291AX10T6, SMD291AX250T6, WS991AX50T4, TS991AX500T4C, WS430AX500T4C

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**REVISION DATE:** 2025/12/01  
**REVISION NUMBER:** 5.9  
**REVISED BY:** Chip Quik Product Safety

**PRODUCT USE:** Soldering components for bonding semiconductor chips and packages to 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                                                                              | 2A | H319   |      |
| Skin Irritant                                                                             | 2  | H315   |      |
| Skin Sensitization                                                                        | 1  | H317   |      |
| Aquatic Acute                                                                             | 1  | H400   |      |
| Aquatic Chronic                                                                           | 1  | H410   |      |
| Reproductive toxicity                                                                     | 1  | H360FD |      |
| Lactation (Effects on or via)                                                             |    | H362   |      |
| Carcinogenic                                                                              | 2  | H351   |      |
| Specific Target Organ Toxicity (STOT) – Single Exposure (SE) Respiratory Tract Irritation | 3  |        | H335 |
| Specific Target Organ Toxicity (STOT) – Repeated Exposure (RE)                            | 2  |        | H373 |

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

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

**TARGET ORGANS:** Blood, Kidneys, Skin, Respiratory System, Nasal, Septum, Liver, Eyes

**GHS/CLP:**



Signal Word: Danger

## GHS/CLP LABEL ELEMENTS:

### LEAD WARNING

#### 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.                     |
| H351 | Suspected of causing cancer.                          |
| H361 | Suspected of damaging fertility or the unborn child.  |
| H362 | May cause harm to breast-fed children.                |
| H410 | Very toxic to aquatic life with long lasting effects. |

#### 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.                                                                                                                                        |
| P263                     | Avoid contact during pregnancy and while nursing.                                                                                                                                   |
| 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/P340/312            | 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 (CHRONIC and OVEREXPOSURE)

**Tin:** Dust or fumes may cause irritation of the skin mucous membranes and may result in a benign Pneumoconiosis (Stannosis).

**Silver:** May cause discoloration of eyes and skin (Argyria).

**Bismuth:** May cause foul breath, a blue-black line on the gums, and Stomatitis.

**Antimony:** May cause gastrointestinal upset, sleeplessness, irritability, and muscular pain.

**Indium:** May cause weight loss, pulmonary edema, blood damage and degenerative changes in liver and kidneys.

### CHRONIC / ACUTE HEALTH HAZARDS

**Lead:** Women of child-bearing age should avoid exposure to lead and its inorganic compounds due to post-natal effects. Lead can cause potential injury to a developing fetus and possible effects on reproduction. Exposure to high levels of airborne or ingested lead may produce symptoms of anemia, weakness, constipation, nausea, and abdominal pain. Prolonged exposure may result in kidney and/or nervous system involvement.

**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.

Chronic Toxicity-Proposition 65, State of California:  **WARNING!** This product can expose you to Lead, which is known to the State of California to cause Cancer, Birth Defects, or other Reproductive Harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov). Federal and State Laws prohibit the use of lead solder in making joints in any private or public potable (drinking) water supply system. Breathing fumes may cause respiratory system irritation or damage. After handling solder, wash hands with soap and water before eating or smoking.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Classified in accordance with European CLP Regulation 1272/2008

| Hazardous Ingredients <sup>(1)</sup>   | C.A.S. Number | Weight Percent | OSHA PEL<br>mg/m <sup>3</sup> | ACGIH TLV TWA<br>mg/m <sup>3</sup> | LD 50 Ingested<br>g/Kg | LD 50 Inhaled<br>g/m <sup>3</sup> |
|----------------------------------------|---------------|----------------|-------------------------------|------------------------------------|------------------------|-----------------------------------|
| Modified Rosins (Rosin) <sup>(2)</sup> | 8050-09-7     | <45            | NE                            | NE                                 | NE                     | NE                                |
| Pine Oil Derivatives                   | 8000-41-7     | <5             | NE                            | NE                                 | NE                     | NE                                |

|                                                     |           |                                                                                |      |      |         |    |
|-----------------------------------------------------|-----------|--------------------------------------------------------------------------------|------|------|---------|----|
| (Terpineol)                                         |           |                                                                                |      |      |         |    |
| Mixed Carboxylic Acids (Maleic Acid) <sup>(2)</sup> | 110-16-7  | <4                                                                             | NE   | NE   | NE      | NE |
| *+Lead                                              | 7439-92-1 | Product contains one or more of these metallic elements in varying percentages | 0.05 | 0.05 | NE      | NE |
| Tin                                                 | 7440-31-5 |                                                                                | 2.00 | 2.00 | NE      | NE |
| Silver                                              | 7440-22-4 |                                                                                | 0.01 | 0.10 | NE      | NE |
| Bismuth                                             | 7440-69-9 |                                                                                | NE   | NE   | NE      | NE |
| Antimony                                            | 7440-36-0 |                                                                                | 0.50 | 0.50 | 7.0 Rat | NE |
| Indium                                              | 7440-74-6 |                                                                                | NE   | 0.10 | NE      | NE |
| Copper                                              | 7440-50-8 |                                                                                | 1.00 | 1.00 | NE      | NE |

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

### SECTION 3 NOTES:

\* denotes a chemical that is also listed in 29CFR 1910.1200(D) #4 as a known or suspected cancer hazard.

+ denotes a chemical regulated as toxic by the Environmental Protection Agency (EPA) as outlined in 40CFR Part 372 (section 313).

Percentages of individual components are not listed as this information is considered a trade secret.

(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

**Signs and symptoms of exposure:** Inhalation-Nose and throat irritation, headache, dizziness, difficulty breathing, coughing. Ingestion-nausea, vomiting, cramps. Skin-redness, burning, rash, dryness. Eye-redness, burning, tearing, blurred vision.

### 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.

**OTHER: Lead:** Excessive overexposure may result in an acute or chronic illness. If symptoms are present, the individual should be immediately removed from exposure and a physician consulted.

## 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:** May release Toxic metal and oxide fumes. High concentrations of dust may present explosion hazard. Water trapped below molten metal may explode thus spattering molten metal.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Lead oxide fumes and/or Lead particulate may be evolved.

### SECTION 5 NOTES:

Molten solder alloys consisting of Antimony, Bismuth, Copper, Indium, Lead, Silver, and/or Tin do not produce significant quantities of fumes below 900° F.

## 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 spilled paste 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/m<sup>3</sup> 8h TWA.  
MEL: 0.15 mg/m<sup>3</sup> 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 solder 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). Recommend gloves: latex or nitrile disposable.

**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**

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

**SECTION 9 NOTES:**

Other physical and chemical properties depend on alloy composition.

**10. STABILITY AND REACTIVITY**

|                                             |                                                                                                                                         |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| <b>STABILITY:</b>                           | Stable                                                                                                                                  |
| <b>CONDITIONS TO AVOID (STABILITY):</b>     | NE                                                                                                                                      |
| <b>INCOMPATIBILITY (MATERIAL TO AVOID):</b> | Oxidizing materials, acids, hydrogen peroxide, bases                                                                                    |
| <b>HAZARDOUS DECOMPOSITION/BY-PRODUCTS:</b> | Harmful organic fumes and toxic oxide fumes may form at elevated temperatures. Lead oxide fumes and/or Lead particulate may be evolved. |
| <b>POSSIBILITY OF HAZARDOUS REACTIONS:</b>  | 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.

**Health Hazards (acute and chronic):** Contact with dust and fumes may cause skin, eye and respiratory irritation. Ingestion and/or inhalation of material or fumes may result in flu like symptoms, insomnia, muscle weakness, nausea and abdominal pain. Gross inhalation or ingestion may be toxic and can result in death. Symptoms of toxicity may take hours or days to manifest. Chronic exposures, inhalation and ingestion, may result in kidney, red blood cell, reproductive and nervous system effects. Health effects may be cumulative over many exposures. Studies show that health risks vary by individual. Minimize exposure as a precaution. See OSHA 29CFR 1910.1025(subpart Z) for more information.

### 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:<br>Convulsions or effect on seizure threshold.<br>Behavioral: Muscle weakness. Gastrointestinal: Ulceration or bleeding from stomach.<br>1 hour<br>Remarks: Behavioral: Tremor |
|                         | LD50 Inhalation | Rat     | 720 mg/m <sup>3</sup> |                                                                                                                                                                                                     |
|                         | LD 50 Dermal    | Rabbit  | 1560 mg/kg            |                                                                                                                                                                                                     |

### SKIN CORRISSION/IRRITATION:

NE

### SERIOUS EYE DAMAGE/IRRITATION:

Not available

### RESPIRATORY OR SKIN SENSITIZATION:

NE

### GERM CELL MUTAGENICITY:

Not available

### CARCINOGENICITY:

|          |                     |         |                          |
|----------|---------------------|---------|--------------------------|
| OSHA: NA | ACGIH: Lead (Pb)-A3 | NTP: NA | IARC: Lead (PB)-Group 2B |
|----------|---------------------|---------|--------------------------|

### 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:

Not available

### ASPIRATION HAZARD:

Not available

## 11.2 Information on other hazards:

### 11.2.1 Endocrine disrupting properties:

Not available.

### 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 |
|-------------------------|---------------------------------|----------------------------------------------------|----------|
| Lead                    | Acute EC50 105 ppb Marine water | Algae - Chaetoceros sp. - Exponential growth phase | 72 hours |
|                         | Acute EC50 0.489 mg/l Marine    | Algae - Ulva pertusa                               | 96 hours |

|             |                                                                                                                                                                                                                                          |                                                                                                                                                                                                                              |                                                                           |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
|             | water<br>Acute EC50 8000 µg/l Fresh water<br>Acute LC50 530 µg/l Fresh water<br><br>Acute LC50 4400 µg/l Fresh water<br>Acute LC50 0.44 ppm Fresh water<br><br>Chronic NOEC 0.25 mg/l Marine water<br>Chronic NOEC 0.03 µg/l Fresh water | Aquatic plants - Lemna minor<br>Crustaceans - Ceriodaphnia reticulata<br>Daphnia - Daphnia magna<br>Fish - Cyprinus carpio - Juvenile (Fledgling, Hatchling, Weanling)<br>Algae - Ulva pertusa<br><br>Fish - Cyprinus carpio | 4 days<br>48 hours<br><br>48 hours<br>96 hours<br><br>96 hours<br>4 weeks |
| Rosin       | Acute LC50 60.3 mg/l Fresh water                                                                                                                                                                                                         | Brachydanio rerio (zebra fish)                                                                                                                                                                                               | 96 hours                                                                  |
| Terpineol   | Acute LC50 62.80 mg/l Fresh water<br>Acute LC50 68 mg/l Marine water                                                                                                                                                                     | Danio rerio (zebra fish)<br><br>Algae – Pseudokirchneriella subcapitata (green algae)                                                                                                                                        | 96 hours<br><br>72 hours                                                  |
| Maleic acid | Acute EC50 316200 µg/l Fresh water<br>Acute LC50 5000 µg/l Fresh water                                                                                                                                                                   | Daphnia - Daphnia magna - Larvae<br>Fish - Pimephales promelas                                                                                                                                                               | 48 hours<br>96 hours                                                      |

**PERSISTENCE AND DEGRADABILITY:** NE

**BIOACCUMULATIVE POTENTIAL:**

| Product/Ingredient Name | LogP <sub>ow</sub> | 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:**

Not available

**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

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/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

This product contains components known to the state of California to cause cancer or reproductive harm.

## 16. OTHER INFORMATION

### LEGEND:

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

### PREPARATION INFORMATION:

This update supersedes all previously released documents.

### DISCLAIMER:

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