1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Chip Quik Leaded Solder Wire and Spheres Series: SMDSW, SMD, SMD2SW, SMD3SW

**SYNONYMS:** Solder Spool, Solder Sticks, Solder Coil, Chip Quik Alloy, Removal Alloy, Rework Solder, Solder Spheres

**PART NUMBERS:**
- SMDSW.020 1OZ, SMDSW.031 1OZ, SMDSW.020 2OZ, SMDSW.031 2OZ, SMDSW.020 4OZ, SMDSW.031 4OZ, SMDSW.031 8OZ, SMDSW.031 16OZ
- SMDSW.031 8OZ, SMDSW.031 4OZ, SMDSW.020 8OZ, SMDSW.031 8OZ, SMDSW.020 8OZ
- SMD2SW.020 1LB, SMD2SW.031 1LB, SMD2SW.020 1LB, SMD2SW.031 1LB, SMD3SW.020 1LB, SMD3SW.031 1LB, SMD3SW.020 2OZ, SMD3SW.031 2OZ
- SMD2SW.031 2OZ, SMD3SW.020 4OZ, SMD3SW.031 4OZ, SMD3SW.031 8OZ, SMD3SW.031 16OZ

**MANUFACTURER:** Chip Quik Inc.

**ADDRESS:**
- 931-3909 Witmer Rd., Niagara Falls, NY 14305 (USA)
- 3rd Floor, 207 Regent Street, London W1B 3HH (UK and EU)
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**PHONE:**
- (508) 477-2264
- (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)

**REVISION DATE:** 2017/9/7

**REVISION NUMBER:** 3.1

**REVISED BY:** Chip Quik Product Safety

**PRODUCT USE:** Soldering components for bonding semiconductor chips and packages to circuit boards. Removal of semiconductor chips and packages from circuit boards. This product is for industrial use only.

2. HAZARD IDENTIFICATION

Classified in accordance with European CLP Regulation 1272/2008

**Acute Tox.**
- 4*

**Skin Irritant**
- 2

**Eye Irritant**
- 2A

**Aquatic Acute**
- 1

**Aquatic Chronic**
- 1

**Chronic toxicity**
- 2

**Reproductive toxicity**
- 2

**Carcinogenic**
- 2

**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.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
H334   May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335   May cause respiratory irritation.
H351   Suspected of causing cancer.
H361   Suspected of damaging fertility or the unborn child.
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.
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.
P342/P311  IF EXPERIENCING RESPIRATORY SYMPTOMS: Call POISON CENTER/Doctor.
P308/P313  IF EXPOSED OR CONCERNED: Get medical advice/attention.
P362   Take off contaminated clothing and wash it before reuse.
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.
P360   In case of inadequate ventilation wear respiratory protection.
P304/P351/338/ P310 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)

Copper: May cause a blue-black line on the gums, and Stomatitis.
Antimony: May cause gastrointestinal upset, sleeplessness, irritability, and muscular pain.
Bismuth: May cause discoloration of eyes and skin (Argyia).
Indium: May cause gastrointestinal upset, sleeplessness, irritability, and muscular pain.

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 the 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 Contains Lead which may be harmful to your health and is a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm. 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

<table>
<thead>
<tr>
<th>Hazardous Ingredients</th>
<th>C.A.S. Number</th>
<th>Weight Percent</th>
<th>OSHA PEL mg/m³</th>
<th>ACGIH TLV TWA mg/m³</th>
<th>LD 50 Ingested g/Kg</th>
<th>LD 50 Inhaled g/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modified Rosins (Rosin) (2)</td>
<td>8050-09-7</td>
<td>&lt;45</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
</tr>
<tr>
<td>Pine Oil Derivatives (Terpineol)</td>
<td>8000-41-7</td>
<td>&lt;5</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
</tr>
<tr>
<td>Mixed Carboxylic Acids (Maleic Acid) (2)</td>
<td>110-16-7</td>
<td>&lt;4</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
</tr>
<tr>
<td>Lead**</td>
<td>7439-92-1</td>
<td>Product contains one or more of these metallic elements in varying percentages</td>
<td>0.05</td>
<td>0.05</td>
<td>NE</td>
<td>NE</td>
</tr>
<tr>
<td>Tin</td>
<td>7440-31-5</td>
<td>2.00</td>
<td>2.00</td>
<td>NE</td>
<td>NE</td>
<td></td>
</tr>
<tr>
<td>Silver</td>
<td>7440-22-4</td>
<td>0.01</td>
<td>0.10</td>
<td>NE</td>
<td>NE</td>
<td></td>
</tr>
<tr>
<td>Bismuth</td>
<td>7440-69-9</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
<td></td>
</tr>
<tr>
<td>Antimony</td>
<td>7440-36-0</td>
<td>0.50</td>
<td>0.50</td>
<td>7.0 Rat</td>
<td>NE</td>
<td></td>
</tr>
<tr>
<td>Indium</td>
<td>7440-74-6</td>
<td>NE</td>
<td>0.10</td>
<td>NE</td>
<td>NE</td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td>7440-50-8</td>
<td>1.00</td>
<td>1.00</td>
<td>NE</td>
<td>NE</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-Hazardous Ingredients</th>
<th>C.A.S. Number</th>
<th>Weight Percent</th>
<th>OSHA PEL mg/m³</th>
<th>ACGIH TLV TWA mg/m³</th>
<th>LD 50 Ingested g/Kg</th>
<th>LD 50 Inhaled g/m³</th>
</tr>
</thead>
</table>
Surfactants | NA | <4 | NE | NE | NE
Rheological Modifier | NA | <5 | 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 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:
For industrial use only. Keep out of reach of children.
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 solder wire.

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPEARANCE:</td>
<td>Silver Grey Solid</td>
</tr>
<tr>
<td>ODOR:</td>
<td>Odorless</td>
</tr>
<tr>
<td>ODOR THRESHOLD:</td>
<td>NE</td>
</tr>
<tr>
<td>pH as SUPPLIED:</td>
<td>NA</td>
</tr>
<tr>
<td>MELTING POINT:</td>
<td>Varies</td>
</tr>
<tr>
<td>FREEZING POINT:</td>
<td>Varies</td>
</tr>
<tr>
<td>INITIAL BOILING POINT:</td>
<td>Varies</td>
</tr>
<tr>
<td>BOILING RANGE:</td>
<td>NA</td>
</tr>
<tr>
<td>FLASH POINT:</td>
<td>NA</td>
</tr>
<tr>
<td>EVAPORATION RATE:</td>
<td>NA</td>
</tr>
<tr>
<td>FLAMMABILITY (solid):</td>
<td>NE</td>
</tr>
<tr>
<td>UPPER/LOWER FLAMMABILITY:</td>
<td>NE</td>
</tr>
<tr>
<td>UPPER/LOWER EXPLOSIVE LIMITS:</td>
<td>NE</td>
</tr>
<tr>
<td>VAPOR PRESSURE (mmHg):</td>
<td>NA</td>
</tr>
<tr>
<td>VAPOR DENSITY (AIR = 1):</td>
<td>NA</td>
</tr>
<tr>
<td>RELATIVE DENSITY:</td>
<td>NE</td>
</tr>
<tr>
<td>SOLUBILITY IN WATER:</td>
<td>Insoluble</td>
</tr>
<tr>
<td>PARTITION COEFFICIENT (n-octanol/water):</td>
<td>NE</td>
</tr>
<tr>
<td>AUTOIONIGATION TEMPERATURE:</td>
<td>NE</td>
</tr>
<tr>
<td>DECOMPOSITION TEMPERATURE:</td>
<td>NE</td>
</tr>
<tr>
<td>VISCOSITY:</td>
<td>NA</td>
</tr>
</tbody>
</table>

SECTION 9 NOTES: Other physical and chemical properties depend on alloy composition.

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. Lead oxide fumes and/or Lead particulate may be evolved.

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.

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:

<table>
<thead>
<tr>
<th>Product/Ingredient Name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rosin</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>7600 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Terpineol</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>2000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Inhalation</td>
<td>Rat</td>
<td>4.76 mg/l</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rat</td>
<td>2000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Maleic acid</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>708 mg/kg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LD50 Inhalation</td>
<td>Rat</td>
<td>720 mg/m³</td>
<td>1 hour</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>1560 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Antimony</td>
<td>LD50 Ingested</td>
<td>Rat</td>
<td>7000 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Silver</td>
<td>LD50 Oral</td>
<td>Mouse</td>
<td>100 mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

SKIN CORRISION/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:

<table>
<thead>
<tr>
<th>Product/Ingredient Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maleic acid</td>
<td>Category 3</td>
<td>Not applicable</td>
<td>Respiratory tract irritation</td>
</tr>
</tbody>
</table>

STOT-REPEATED EXPOSURE: Not available
ASPIRATION HAZARD: Not available

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:

<table>
<thead>
<tr>
<th>Product/Ingredient Name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>Acute EC50 105 ppb Marine water</td>
<td>Algae - Chaetoceros sp. - Exponential growth phase</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 0.489 mg/l Marine water</td>
<td>Algae - Ulva pertusa</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 8000 μg/l Fresh water</td>
<td>Aquatic plants - Lemma minor</td>
<td>4 days</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 530 μg/l Fresh water</td>
<td>Crustaceans - Ceriodaphnia reticulata</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 4400 μg/l Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 0.44 ppm Fresh water</td>
<td>Fish - Cyprinus carpio - Juvenile (Fledgling, Hatchling, Weanling)</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 0.25 mg/l Marine water</td>
<td>Algae - Ulva pertusa</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 0.03 μg/l Fresh water</td>
<td>Fish - Cyprinus carpio</td>
<td>4 weeks</td>
</tr>
<tr>
<td>Rosin</td>
<td>Acute LC50 60.3 mg/l Fresh water</td>
<td>Brachydanio rerio (zebra fish)</td>
<td>96 hours</td>
</tr>
<tr>
<td>Terpineol</td>
<td>Acute LC50 62.80 mg/l Fresh water</td>
<td>Danio rerio (zebra fish)</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 68 mg/l Marine water</td>
<td>Algae – Pseudokirchneriella subcapitata (green algae)</td>
<td>72 hours</td>
</tr>
<tr>
<td>Maleic acid</td>
<td>Acute EC50 316200 μg/l Fresh water</td>
<td>Daphnia - Daphnia magna - Larvae</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 5000 μg/l Fresh water</td>
<td>Fish - Pimephales promelas</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

PERSISTENCE AND DEGRADIBILITY: NE

BIOACCUMULATIVE POTENTIAL:

<table>
<thead>
<tr>
<th>Product/Ingredient Name</th>
<th>LogP_ow</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rosin</td>
<td>1.9 to 7.7</td>
<td>-</td>
<td>High</td>
</tr>
</tbody>
</table>
MOBILITY IN SOIL: NE
RESULT OF PBT and vPvB ASSESSMENT: Not applicable
OTHER ADVERSE EFFECTS: NE

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Scrap and waste should be recycled or stored in a dry, sealed container for later disposal. Disposal must be in accordance with Federal, State/Provincial, and Local Regulations.

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

14. TRANSPORT INFORMATION

Transport in accordance with applicable regulations and requirements.

UN Number: Not available
UN Proper Shipping Name: Not available
Packaging Group: Not applicable
Environmental Hazards: None

TRANSPORT HAZARD CLASSES:
US DOT Hazardous Material Classification: Non-Hazardous
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

All ingredients used to manufacture this product are listed on the EPA TSCA Inventory. Finished product is not listed on the EPA TSCA Inventory.

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:
AGCIH 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
PREPARATION INFORMATION:
This update supersedes all previously released documents.

DISCLAIMER:
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