

CHIPQUIK® Lead Free Solder Wire and Spheres

Safety Data Sheet (SDS)

www.chipquik.com

To comply with European CLP Regulation 1272/2008, US 29CFR 1910.1200 OSHA's Hazard Communication Standard, Australian NOHSC: 1008 [2004] and ADG Code 7.4, and Canadian WHMIS 2015

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Chip Quik Lead Free Solder Wire and Spheres Series: SMDSWLF, SMDSWLTLP, SMD_NL, SMD20
SYNONYMS: Solder Spool, Solder Sticks, Solder Coil, Chip Quik Alloy, Removal Alloy, Rework Solder, Solder Spheres
PART NUMBERS: SMD1NL, SMD4.5NL, SMD8NL, SMD16NL, SMD32NL, SMD32NLS, SMD32ENL, SMD6000, SMDSWLF.020 1OZ, SMDSWLF.031 1OZ, SMDSWLF.020 2OZ, SMDSWLF.031 2OZ, SMDSWLF.020 4OZ, SMDSWLF.031 4OZ, SMDSWLTLP32, SMD2040, SMD2040-25000, SMD2050, SMD2050-25000, SMD2055, SMD2055-25000, SMD2060, SMD2060-25000, SMDSWLF.015 1LB, SMDSWLF.020 1LB, SMDSWLF.031 1LB, SMD2SWLF.015 1LB, SMD2SWLF.020 1LB, SMD2SWLF.031 1LB, SMD2SWLF.015 8OZ, SMD2SWLF.015 8OZ, SMD2SWLF.020 8OZ, SMD2SWLF.031 8OZ, SMD2SWLF.015 8OZ, SMD2SWLF.020 8OZ, SMD2SWLF.031 8OZ, SOLDERWICK1.5, SOLDERWICK2.0, SOLDERWICK2.8, SMDIN100, SMDIN52SN48, SMDIN97AG3, SMDSWLF.015 .3OZ, SMDSWLF.020 .4OZ, SMDSWLF.031 .7OZ, SMD2SWLF.015 .3OZ, SMD2SWLF.020 .4OZ, SMD2SWLF.031 .7OZ, SMDSWLF.006 50g, SMDSWLF.008 50g, SMD2SWLF.012 100g, SMDSWLF.015 1OZ, SMDSWLF.015 2OZ, SMDSWLF.015 4OZ, SMDSWLF.015 8OZ, SMD2SWLF.015 1OZ, SMD2SWLF.015 2OZ, SMD2SWLF.015 4OZ, SMD2SWLF.020 1OZ, SMD2SWLF.020 2OZ, SMD2SWLF.020 4OZ, SMD2SWLF.031 1OZ, SMD2SWLF.031 2OZ, SMD2SWLF.031 4OZ, SMD2016, SMD2016-25000, SMD2020, SMD2020-25000, SMD2024, SMD2024-25000, SMD2028, SMD2028-25000, SMD2032, SMD2032-25000, SMD2036, SMD2036-25000, RASWLF.015 1OZ, RASWLF.015 2OZ, RASWLF.015 4OZ, RASWLF.015 8OZ, RASWLF.015 1LB, RASWLF.020 1OZ, RASWLF.020 2OZ, RASWLF.020 4OZ, RASWLF.020 8OZ, RASWLF.020 1LB, RASWLF.031 1OZ, RASWLF.031 2OZ, RASWLF.031 4OZ, RASWLF.031 8OZ, RASWLF.031 1LB, RASWLF.015 .3OZ, RASWLF.020 .4OZ, RASWLF.031 .7OZ, SMDSWLT.040 10g, SMDSWLT.040 20g, SMDSWLT.040 50g, SMDSWLT.040 100g, SMDSWLT.040 200g, NCSWLF.020 1LB, NCSWLF.031 1LB, NC2SWLF.020 1LB, NC2SWLF.031 1LB, NC3SWLF.020 1LB, NC3SWLF.031 1LB, SMDIN100-R, SMDIN52SN48-R, CQ100Ge.020 1LB, CQ100Ge.031 1LB, SMD2SWLT.040 10g, SMD2SWLT.040 20g, SMD2SWLT.040 50g, SMD2SWLT.040 100g, SMD2SWLT.040 200g, SMD3SWLT.040 10g, SMD3SWLT.040 20g, SMD3SWLT.040 50g, SMD3SWLT.040 100g, SMD3SWLT.040 200g, REMKIT-NL, NCSWLF.020 0.3OZ, NCSWLF.031 0.5OZ, NC2SWLF.020 0.3OZ, NC2SWLF.031 0.5OZ, NC3SWLF.020 0.3OZ, NC3SWLF.031 0.5OZ, REM4.5-NL, REM8-NL, REM16-NL, REM32-NL, REMKIT4.5-NL, REM2.7-ULTRA-NL, REM4.5-ULTRA-NL, REM8-ULTRA-NL, REM16-ULTRA-NL, REM32-ULTRA-NL, NCSWLF.015 1LB, NCSWLF.015 0.2OZ, NCSWLF.015 1OZ, NCSWLF.015 2OZ, NCSWLF.015 4OZ, NCSWLF.015 8OZ, NC2SWLF.015 1LB, NC2SWLF.015 0.2OZ, NC2SWLF.015 1OZ, NC2SWLF.015 2OZ, NC2SWLF.015 4OZ, NC2SWLF.015 8OZ, SMDSWLF.006 1g, SMDSWLF.006 2g, SMDSWLF.006 5g, SMDSWLF.006 10g

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REVISION NUMBER: 5.0
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.

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 4
Skin Irritant 2
Skin Sensitization 1

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.
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/P340/312 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.

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	110-16-7	<4	NE	NE	NE	NE

(Maleic Acid) ⁽²⁾						
Tin	7440-31-5	Product contains one or more of these metallic elements in varying percentages	2.00	2.00	NE	NE
Silver	7440-22-4		0.01	0.10	NE	NE
Bismuth	7440-69-9		NE	NE	NE	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 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

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.

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.

SECTION 5 NOTES:

Molten solder alloys consisting of Antimony, Bismuth, Copper, Indium, 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:

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.

PEL (Canada): Canada AB: Not established, Canada BC: (L), Canada ON: (L), Canada QC: Not established

STEL (Canada): Not established

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

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

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.
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 LD50 Inhalation LD50 Dermal	Rat Rat Rat	2000 mg/kg 4.76 mg/l 2000 mg/kg	- 4 hours -
Maleic acid	LD50 Oral LD50 Inhalation LD 50 Dermal	Rat Rat Rabbit	708 mg/kg 720 mg/m ³ 1560 mg/l/kg	Remarks: Behavioral: Convulsions or effect on seizure threshold. Behavioral: Muscle weakness. Gastrointestinal: Ulceration or bleeding from stomach. 1 hour Remarks: Behavioral: Tremor
Silver	LD50 Oral	Mouse	100 mg/kg	-

SKIN CORRISSION/IRRITATION: Not available

SERIOUS EYE DAMAGE/IRRITATION:

Product/Ingredient Name	Result	Species	Score	Exposure	Observation
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

12. ECOLOGICAL INFORMATION

TOXICITY:

Product/Ingredient Name	Result	Species	Exposure
Silver	Acute EC50 1.4 µg/l Marine water Acute EC50 0.24 µg/l Fresh water Acute LC50 11 µg/l Fresh water Acute LC50 2.13 µg/l Fresh water Chronic NOEC 5 mg/l Marine water	Algae - Chroomonas sp. Daphnia - Daphnia magna Crustaceans - Ceriodaphnia reticulata Fish - Pimephales promelas Algae - Glenodinium halli	4 days 48 hours 48 hours 96 hours 72 hours
Rosin	Acute LC50 60.3 mg/l Fresh water	Brachydanio rerio (zebra fish)	96 hours
Terpineol	Acute LC50 62.80 mg/l Fresh water Acute LC50 68 mg/l Marine water	Danio rerio (zebra fish) Algae – Pseudokirchneriella subcapitata (green algae)	96 hours 72 hours
Maleic acid	Acute EC50 316200 µg/l Fresh water Acute LC50 5000 µg/l Fresh water	Daphnia - Daphnia magna - Larvae Fish - Pimephales promelas	48 hours 96 hours
Copper	Acute EC50 1100 µg/l Fresh water Acute EC50 2.1 µg/l Fresh water Acute IC50 13 µg/l Fresh water Acute IC50 5.4 mg/l Marine water Acute LC50 0.072 µg/l Marine water Acute LC50 7.56 µg/l Marine water Chronic NOEC 2.5 µg/l Marine water Chronic NOEC 7 mg/l Fresh water Chronic NOEC 0.02 mg/l Fresh water Chronic NOEC 2 µg/l Fresh water Chronic NOEC 0.8 µg/l Fresh	Aquatic plants - Lemna minor Daphnia - Daphnia longispina - Juvenile (Fledgling, Hatchling, Weanling) Algae - Pseudokirchneriella subcapitata - Exponential growth phase Aquatic plants - Plantae - Exponential growth phase Crustaceans - Amphipoda - Adult Fish - Periophthalmus waltoni - Adult Algae - Nitzschia closterium - Exponential growth phase Aquatic plants - Ceratophyllum demersum Crustaceans - Cambarus bartonii - Mature Daphnia - Daphnia magna Fish - Oreochromis niloticus -	4 days 48 hours 72 hours 72 hours 48 hours 96 hours 72 hours 3 days 21 days 21 days 6 weeks

	water	Juvenile (Fledgling, Hatchling, Weanling)	
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PERSISTENCE AND DEGRADABILITY: NE

BIOACCUMULATIVE POTENTIAL:

Product/Ingredient Name	LogP _{ow}	BCF	Potential
Silver	-	70	Low
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

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

CANADA:

Domestic Substance List (DSL) / Non-Domestic Substance List (NDSL):
Hazardous Products Act (R.S.C., 1985, c. H-3):

All hazardous ingredients are listed on the DSL.
The safety data sheet and label comply with the Hazardous Product Act and WHMIS 2015.

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
DSL Domestic Substance List
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
NDSL Non-Domestic Substance List
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
WHMIS	Workplace Hazardous Materials Information System

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.

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