

SN63/PB37 WATER SOLUBLE LEADED SOLDER

4888WS

Safety Data Sheet

Section 1: Identification

Product Identifier and Other Means of Identification

Product Name: Sn63/Pb37 Water Soluble Leaded Solder**SDS Code:** 4888WS**Related Part #** 4888WS-454G

Recommended Use and Restriction on Use

Use: Water soluble, leaded solder wire**Uses Advised Against:** Brazing (torch welding/soldering)

Details of Manufacturer or Importer

ManufacturerMG Chemicals
1210 Corporate Drive
Burlington, Ontario L7L 5R6
CANADAMG Chemicals (Head Office)
9347-193 Street
Surrey, British Columbia V4N 4E7
CANADA**☎** +1-800-340-0772**☎** +1-905-331-1396**Fax** +1-800-340-0773**Fax** +1-905-331-2682**E-mail** support@mgchemicals.com**E-mail** info@mgchemicals.com**Web** www.mgchemicals.com**E-MAIL** (Competent Person): sds@mgchemicals.com

Emergency Phone Number

For hazardous material incidents ONLY—leaks, spills, fires, exposures or accidentsUSA or CANADA: Call CHEMTREC ☎: **+1-800-424-9300****For emergencies involving dangerous goods;** Collect 24/7CANADA: Call CANUTEC ☎: **+1-613-996-6666** or ***666** on cellular phones

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Section 2: Hazard(s) Identification

Classification of Hazardous Chemical

GHS Categories

Criteria	Category	Signal Word	Pictograms
Specific Target Organ Toxicity Repeated Exposure	1	Danger	Health
Reproductive Toxicity	1	Danger	Health
Carcinogenicity	2	Warning	Health
Germ Cell Mutagenicity	2	Warning	Health

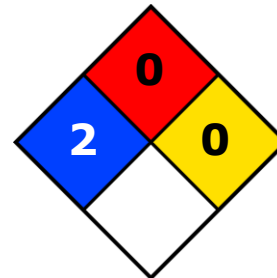
Note: The degree of severity is ranked within each hazard class from 1 (Highest Severity) to up to 5 (Lowest Severity), which is opposite to HMIS and NFPA conventions. Severity category rankings do not allow comparisons between classes.

Other Classifications

HMIS® RATING

HEALTH:	* 2
FLAMMABILITY:	0
PHYSICAL HAZARD:	0
PERSONAL PROTECTION:	

NFPA® 704 CODES




Approximate HMIS and NFPA Risk Ratings Legend:

0 (Low or none); 1 (Slight); 2 (Moderate); 3 (Serious); 4 (Severe)

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Label Elements

Signal Word	DANGER
Pictograms	Hazard Statements
	H360: May damage fertility or the unborn child H372: Causes damage to central nervous system, blood and kidneys through prolonged or repeated exposure H351: Suspected of causing cancer H341: Suspected of causing genetic defects
Prevention	Precautionary Statements
P102 P201 + P202 P260 P264 P280 P270	Keep out of reach of children. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fumes Wash hands thoroughly after handling. Wear protective gloves/eye protection/face protection. Do not eat, drink or smoke when using this product.
Response	Precautionary Statements
P308 + P313 P314	IF exposed or concerned: Get medical advice/attention. Get medical advice/attention if you feel unwell.
Storage	Precautionary Statements
P405	Store locked up.
Disposal	Precautionary Statements
P501	Dispose of contents/container in accordance to local/regional/international regulations.

Other Hazards

Not applicable.

Section 3: Composition/Information on Ingredients

CAS #	Chemical Name	Wt%
7440-31-5	tin	60-63%
7439-92-1	lead	35-37%

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Note: Also contains up to 3% organic acid flux, which is non-hazardous

Section 4: First-Aid Measures

<i>Exposure Condition</i>	<i>GHS Code/Symptoms/Precautionary Statements</i>
IF IN EYES	P305 + P351 + P338
Immediate Symptoms	<i>mild irritation, redness</i>
Response	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF INHALED	P304 + P340, P312, P308 + P313
Immediate Symptoms	<i>fume inhalation may cause cough, irritation (in extreme exposure cases: metallic taste, nausea, vomiting, and muscle cramps)</i>
Response	Remove person to fresh air (out of the contaminated zone) and keep comfortable for breathing. If feeling unwell: Call a doctor. If exposed or concerned: Get medical advice/attention.
IF ON SKIN	P302 + P364
Immediate Symptoms	<i>mild skin irritation</i>
Response	IF ON SKIN: Wash with plenty of water.
IF SWALLOWED	P301 + P330
Immediate Symptoms	<i>abdominal pain, nausea, headaches, vomiting, metallic taste, and muscle cramps</i>
Response	Rinse mouth. Do NOT induce vomiting. If feeling unwell or concerned: Get medical advice.

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Section 5: Fire-Fighting Measures

Auto-ignition Temperature	Not available	Flash Point	Not applicable	LFL [LEL] ^{a)}	Not applicable
				UFL [UEL]	Not applicable

In case of fire	P370 + P378
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Extinguishing Media	Use extinguish media suitable for surrounding. Do Not use water on fires where molten metal is present.
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Specific Hazards	In a fire, this product can release metal oxide fumes and irritation flux fumes.
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Combustion Products	Produces CO and CO ₂ , oxides (SnO _x), lead oxides (PbO _x).
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Fire-Fighter	Wear self-contained breathing apparatus for fire fighting
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a) LFL = Lower Flammability [or Explosion] Limit (in volume %);
UFL = Upper Flammability [or Explosion] Limit (in volume %)

Section 6: Accidental Release Measures

Personal Protection	Use personal protection recommended in Section 8.
Precautions for Response	Avoid breathing the vapors/mist/fumes.
Environmental Precautions	Not required under normal use. See section 13.
Containment	Not applicable
Cleaning	Solidified waste may be collected in a waste container. Avoid creating dust.
Disposal	Dispose of spill waste according to Section 13. If product is not contaminated, it may be reused.

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Section 7: Handling and Storage

- Prevention** Keep out of reach of children.
 Do not breathe fumes.
 Do not eat, drink, or smoke when using this product.
- Handling** Wear protective gloves/clothing/eye protection.
 Take off contaminated clothing and wash it before reuse.
 Contaminated clothing should not be allowed out of workplace.
 Wash hands thoroughly after handling.
 Avoid release to the environment.
- Storage** Keep cool.

Section 8: Exposure Controls/Personal Protection

Routes of Entry

Eyes, ingestion, inhalation

Substances with Occupational Exposure Limit Values

Chemical Name	Country	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
tin	ACGIH	2 mg/m ³	Not established
	U.S.A. OSHA PEL	2 mg/m ³	Not established
	Canada AB	2 mg/m ³	Not established
	Canada BC	2 mg/m ³	Not established
	Canada ON	2 mg/m ³	Not established
	Canada QC	2 mg/m ³	Not established
lead	ACGIH	0.05 mg/m ³	Not established
	U.S.A. OSHA PEL	0.05 mg/m ³	Not established
	Canada AB	0.05 mg/m ³	Not established
	Canada BC	0.05 mg/m ³	Not established
	Canada ON	0.05 mg/m ³	Not established
	Canada QC	0.15 mg/m ³	Not established

Note: Ingredients are listed in descending weight contribution order (from greatest to least). The ACGIH¹, OSHA (Table Z-1), and Canadian provinces exposure limits were consulted. Limits from by RTECS database² of the Canadian Centre for Occupational Health and Safety (CCOHS) a data from suppliers' SDS were also consulted. Short term exposure limits (STEL) are for 15 min and long term permissible exposure limits (PEL) for 8 h.

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SN63/PB37 WATER SOLUBLE LEADED SOLDER**4888WS****Engineering Controls****Ventilation**

Keep airborne concentrations below exposure limits.

Manufacturer's Note: Because soft soldering temperatures are generally too low to generate metal vapors, fumes or dust, the risks of metal or metal compound generation are negligible. However, the use of a local exhaust system is highly recommended.

The iron soldering temperatures are high enough to generate potentially toxic fumes due to the volatilization or degradation of the flux and of the coating material on the soldered surface.

Personal Protective Equipment**Eye protection**

Wear appropriate protective eyeglasses or chemical safety goggles.

Skin Protection

Use of protective gloves if skin contact is likely.

Respiratory Protection

If exposed to fumes, vapors or dust above the exposure limit, a suitable wear respirator meeting local/regional/national guidelines.

Generally, for emergencies and exposure above 0.5 mg/m³, use a self-contained breathing apparatus with full face piece operated in a pressure positive mode.

RECOMMENDATION: Consult your local safety supply store to ensure your respirator has filter cartridges appropriate for the ingredients listed in section 3 of this SDS, and that the respirator is fitted to the employee by a professional.

General Hygiene Considerations

Wash hands thoroughly with water and soap after handling.

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Section 9: Physical and Chemical Properties

Physical State	Solid	Lower Flammability Limit	Not applicable
Appearance	Wire, Silver Grey	Upper Flammability Limit	Not applicable
Odor	Odorless	Vapor Pressure @1591 °C	0.13 kPa [1 mmHg]
Odor Threshold	Not applicable	Vapor Density	Not available
pH	Not applicable	Specific Gravity @25 °C	8.4
Freezing/Melting Point	183 °C [361 °F] ^{b)}	Solubility in Water ^{a)}	Partially soluble
Boiling Point	1380 °C [2516 °F] ^{b)}	Partition Coefficient	Not available
Flash Point	Not applicable	Auto-ignition Temperature	Not available
Evaporation Rate	Not available	Decomposition Temperature	Not available
Flammability (solid, gas)	Not available	Viscosity @40 °C	Not applicable

a) Solubility is with respect to flux—metal components are sparingly soluble

b) Values for alloy

SN63/PB37 WATER SOLUBLE LEADED SOLDER**4888WS****Section 10: Stability and Reactivity**

Reactivity	Tin may react violently in presence of disulfur dichloride and iodine bromide.
Chemical Stability	Chemically stable at normal temperatures and pressures
Conditions to Avoid	Avoid extreme temperatures above 450 °C, such as those due to welding.
Incompatibilities	oxidizing agents, strong acids
Polymerization	Will not occur
Decomposition	Will not decompose under normal conditions. For thermal decomposition, see combustion products in Section 5

Section 11: Toxicological Information**Routes of Exposure**

ingestion, inhalation

Symptoms Summary

Eyes	Fumes may cause eye irritation.
Skin	May cause mild skin irritation.
Inhalation	Fumes may cause nose, throat and lung irritation. Overexposure to dust or metal fumes may lead to pneumoconiosis (or Stannosis
Ingestion	May cause headache, nausea, or muscular pain. (See chronic effects)
Chronic	Prolonged and repeated exposure to lead may cause hemeatological effects, high blood pressure, and adverse central and peripheral nervous systems effects. Symptoms of lead poisoning include metallic taste, colic, nausea, vomiting, and muscle cramps. Ingestion or inhalation have developmental effects.

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Acute Toxicity (Lethal Exposure Concentrations)

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation	TCLo inhalation
tin	>2 000 mg/kg Rat	>2 000 mg/kg Rabbit	4.75 mg/m ³ Rat 4 h	Not available
lead	>2 000 mg/kg Rat	>2 000 mg/kg Rat	5.05 mg/m ³ Rat 4 h	273 mg/m ³ Human

Note: Representative toxicity from RTECS database of the Canadian Centre for Occupational Health and Safety (CCOHS)² data from supplier (M)SDS were consulted. Because data from these sources were inconclusive, the toxicity data from the ECHA database was used instead.

Other Toxicological Effects

Skin corrosion/irritation

Based on available data, classification criteria are not met.

Serious eye damage/irritation

Based on available data, classification criteria are not met.

Sensitization
(allergic reactions)

Based on available data, classification criteria are not met.

Carcinogenicity
(risk of cancer)

Carcinogen based on animal studies and North American guidelines and regulation.

Lead [CAS# 13463-67-7]

IARC (Supl. 7, 1987) Group 2B: Possibly carcinogenic to humans

ACGIH A3: Confirmed animal carcinogen with unknown relevance to human

CA Prop 65: Listed as a carcinogen

NTP (2011 Report): Reasonably anticipated to be a human carcinogen

Mutagenicity
(risk of heritable genetic effects)

Based on available data, classification criteria are not met.

Reproductive Toxicity
(risk to sex functions)

Lead is believed to decrease fertility in males and females.

Teratogenicity
(risk of fetus malformation)

Lead present a reproductive and developmental hazard based on epidemiological and animal studies.

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STOT-single exposure	Based on available data, classification criteria are not met.
STOT-repeated exposure	Epidemiological and animal studies confirmed neurodevelopmental, neurodegenerative, peripheral nervous system, haematological, cardiovascular, kidney and renal effects.
Aspiration hazard	Not applicable. This product doesn't contain any Cat 1 ingredients.

Section 12: Ecological Information

In massive form, the available evidence does not meet classification thresholds on ecological toxicity.

Acute Ecotoxicity

Not available

Chronic Ecotoxicity

Not available

Biodegradability

Non biodegradable.

Other Effects

Not available

Section 13: Disposal Information

Dispose of contents in accordance with all local, regional, national, and international regulations. Recover and reuse is recommended when possible.

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Refer to **TDG regulations** (Canadian Transportation of Dangerous Goods regulations) and **US DOT 49 CFR** (Parts 100 to 185) **Regulations.**

Not Regulated

Air

Refer to **ICAO-IATA Dangerous Goods Regulations.**

Not Regulated

Sea

Refer to **IMDG Dangerous Goods Regulations.**

Not Regulated

Section 15: Regulatory Information**Canada****WHMIS 1988 Classification**

D2A – Very Toxic Material
(Teratogenicity/Embryotoxicity; Chronic Toxicity; Mutagenicity; and Carcinogenicity)

Domestic Substance List (DSL) / Non-Domestic Substance Lists (NDSL)

All hazardous ingredients are listed on the DSL/NDSL.

Industry and Science Canada

MG Labels products intended for the workplace to conform to WHMIS labeling regulations. Product identification, net quantity declaration, minimum printing type size heights, and packaging of this product are in compliance.

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SN63/PB37 WATER SOLUBLE LEADED SOLDER**4888WS****Health Canada**

Products produced by MG Chemicals intended for retail display conform to the Canadian Consumer Labeling Regulations.

USA**CAA** (Clean Air Act, USA)

This product does not contain any class 1 ozone depleting substances.

This product does not contain any class 2 ozone depleting substances.

This product does not contain substances that are listed as hazardous air pollutants.

EPCRA (Emergency Planning and Right to Know Act, USA, 40 CFR 372.45)

This product contains lead (CAS# 7439-92-1; reportable quantity = 10 lb), which is subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372.

TSCA (Toxic Substances Control Act of 1976, USA)

All substances are TSCA listed.

California Proposition 65 (Chemicals known to cause cancer or reproductive toxicity, Sept 2, 2011 revision, USA).

This product contains lead, which is listed as a carcinogen and a reproductive toxicant.

Europe**RoHS**

This product does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's, or PBDE's, and complies with European RoHS regulations.

WEEE

This product is not a piece of electrical or electronics equipment, and is therefore not governed by this regulation.

SN63/PB37 WATER SOLUBLE LEADED SOLDER**4888WS****Section 16: Other Information**

SDS Prepared by Michel Hachey
Date of Issue 15 December 2014
Supersedes Not applicable
Reason for Changes: Change to HCS 2012 format

Reference

- 1) ACGIH 2013 TLVs and BEIs: Based on the documentation of the threshold limit values for chemical substances and physical agents & biological exposure indices, American Conference of Governmental of Industrial Hygienist Cincinnati, OH (2013).
- 2) All toxicological data were checked against the RTECS (Registry of Toxic Effects of Chemical Substances®)

Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists (USA)
EC50	Half maximal effective concentration
EL50	Half maximal effective loading
NOELR	No observable effect loading ratio
GHS	Globally Harmonized System of Classification of Labeling of Chemicals
LC50	Lethal Concentration 50%
LCLo	Lowest published lethal concentration
LD50	Lethal Dose 50%
PEL	Permissible Exposure Limit
STEL	Short-Term Exposure Limit
TCLo	Lowest published toxic concentration
TWA	Time Weighted Average
VOC	Volatile Organic Content

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Quality System Certified to ISO 9001:2008

SAI Global File #004008
Burlington, Ontario, Canada

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Technical Queries Contact us regarding any questions, improvement suggestions, or problems with this product. Application notes, instructions, and FAQs are located at www.mgchemicals.com.

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