

#5-21-1



WARNING: Protect yourself and others. Read and understand this information. Soldering alloys and fluxes may produce **FUMES AND GASES** hazardous to your health.

- Before use, read and understand the manufacturer's instructions, Material Safety Data Sheet, (MSDS), and your employer's safety practices.
- Keep your head out of the fumes.
- Use enough ventilation, exhaust at the flame, or both, to keep fumes and gases from your breathing zone and the general area.
- For maximum safety, be certified for and wear a respirator at all times when welding or brazing.

- Wear correct eye, ear, and body protection.
- Do not touch live electrical parts.
- See American National Standard Z49.1, Safety in Welding and Cutting, published by the American Welding Society, 550 N.W. LeJeune Rd., P.O. Box 351040, Miami, Florida 33135; OSHA Safety and Health Standards, 29 CFR 1910, available from U.S. Government Printing Office, Washington, D.C. 20402.
- The Material Safety Data Sheet for this product follows. The MSDS contains detailed safety and health information about possible hazards associated with use of this product. Additional MSDS are available from your employer or by contacting the J.W. Harris Co., Inc., Cincinnati, Ohio 45242.

MATERIAL SAFETY DATA SHEET- STAY-BRITE® KIT

SECTION 1 - MATERIAL IDENTIFICATION

Manufacturer	J.W. Harris Co., Inc.	Emergency Telephone No.	1-800-424-9300
Address	10930 Deerfield Rd., Cincinnati, OH 45242	Telephone No. for Info.	1-513-891-2000
Date Prepared 12/95 (Supersedes 6/95)			

Wire Composition Wt%

TRADE NAME	Sn	Ag
Stay-Brite	96.00	4.00

SECTION 2 - HAZARDOUS INGREDIENTS

ELEMENT	CAS#	PEL mg/m3(1)	TLV mg/m3(2)
Tin(oxide) <5%	7440-31-5	2.0	2.0
Silver (metal)	7440-22-4	0.01	0.1

STAY-CLEAN® LIQUID FLUX

INGREDIENT					DEPARTMENT OF TRANSPORTATION: DOMESTIC GROUND	
					STAY-CLEAN LIQUID FLUX	
Zinc Chloride*	7646-85-7 <40%	1.0	1.0	2	Proper shipping name:	Corrosive liquid, N.O.S.
Hydrogen Chloride*	7647-01-0 <15%	7.0	7.5	Not listed		(Zinc Chloride Solution)
Ammonium Chloride	12125-02-9 <25	10.0	10.0	20	Hazard Class:	Class 8
Water	7732-18-5 <70%	Not listed	Not listed	Not listed	ID & Packing Group No.	UN 1840, PG III
Methanol*	67-56-1 <5%	260.0	262.0	325	ERG Guide Number:	60

One recommended way to determine the composition and quantity of fumes and gases to which workers are exposed is to take an air sample from the worker's breathing zone. See ANSI/AWS F1.1 available from the American Welding Society, P. O. Box 351040, Miami, FL 33135.

SARA SECTION 313 SUPPLIER NOTIFICATION: Individual filler metals covered by this MSDS may contain the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40CFR 372: Zinc. Refer to Section 1 of this MSDS for the filler metal name and the percent by weight, and Section 2 for the CAS Number for each chemical.

SPECIFIC HEALTH HAZARDS OF CHEMICALS

Ammonium Chloride - Prolonged breathing of fumes may cause irritation of respiratory passages. Hydrogen Chloride - Causes eye and skin burns. Ingestion causes severe burns of mouth, esophagus and stomach. Vapor extremely irritating. Methanol - Ingestion may cause blindness; 100-250 ml may be fatal. Symptoms of overexposure include dizziness, visual impairment, nausea, respiratory failure, muscular incoordination and narcosis. Prolonged or repeated skin contact may cause dermatitis, erythema, scaling, and possibly systemic effects. Petrolatum - May cause skin irritation upon continual use. Zinc Chloride - Fume or dust can cause dermatitis, and conjunctivitis. May cause rashes, boils, corneal burn, epigastric pain, nausea, vomiting, shock (internal). Tin - Tin fume may cause metal fume fever characterized by fever, body ache, and chills. Zinc - Zinc fume may cause metal fume fever, characterized by fever, body ache and chills. Zinc fume may also be an irritant to the skin and eyes. Zinc Oxide - Causes skin and eye burns. Harmful if inhaled or absorbed through the skin. Chronic effects are coughing, CNS effects, erythema, and nausea.

NFPA HAZARD SIGNAL

Health	1	Stability	0	Flammability	0	Special	0
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Soldering wire is a nonhazardous solid at ambient temperature. Hazards (as defined by OSHA 29CFR 1910, 1200) may result from fume generated during use. Section 1 lists product designations and compositions as manufactured.

IMPORTANT - See Section 6 for information on potential fume hazard resulting from use of the product.

SECTION 3 - PHYSICAL DATA

STAY-BRITE solder wire is gray to silver in color.

STAY-CLEAN LIQUID FLUX

Appearance - clear, colorless liquid with an "acidic" odor. pH 2.0-3.0;

Solubility in water complete. Specific Gravity 1.224@70°F Vapor Pressure 0.75 Psig

SECTION 4 - FIRE AND EXPLOSION DATA

Nonflammable. Open flame and sparks can ignite combustibles. See ANSI/ASC-Z49.1-1983 Section 6.

SECTION 5 - HEALTH HAZARD DATA

STAY-BRITE SOLDER

EXPOSURE-Section 1 lists nominal composition of the solid product. Section 6 lists exposure limits for decomposition products which might be present in fume generated during soldering. Actual exposure should be determined by monitoring the fume in the operator's breathing zone.

PRIMARY ROUTE OF EXPOSURE-Inhalation of fume.

PRE-EXISTING MEDICAL CONDITIONS-Individuals with impaired pulmonary functions or illness may have symptoms exacerbated by fume irritants.

POSSIBLE EFFECTS OF EXPOSURE-Tin fume may cause metal fume fever. Short term symptoms may include a metallic taste in the mouth, dryness or irritations of the throat followed by fever, body ache, and chills. Long term exposure to soldering fume, gases or dust may contribute to pulmonary irritation or pneumoconiosis.

EMERGENCY FIRST AID-Remove from dust or fume exposure. If breathing has stopped perform artificial respiration. Summon medical aid immediately.

OTHER HEALTH CONSIDERATIONS-Fumes from flux (zinc chloride, etc.) used during soldering may be irritating to respiratory tract.

CARCINOGENICITY NTP? NO **IARC MONOGRAPHS?** NO **OSHA REGULATED?** NO

STAY-CLEAN LIQUID FLUX

If swallowed, give plenty of water or milk. Do not induce vomiting. Call Physician immediately.

Skin - Flush with water

Inhalation - Irritates respiratory system - Move to fresh air

Eyes - Eye irritant - Flush with water at least 15 min. Promptly get medical attention.

CARCINOGENICITY NTP? NO **IARC MONOGRAPHS?** NO **OSHA REGULATED?** NO

SECTION 6 - REACTIVITY DATA HAZARDOUS DECOMPOSITION PRODUCTS

STAY-BRITE SOLDER Soldering fumes cannot be classified simply. The composition and quantity are dependent upon the metal being soldered, the process, procedures and filler metals used. Other conditions which also influence the composition and quantity of the fumes to which workers may be exposed include: coatings on the metal being soldered (such as paint, plating, or galvanizing), the amount of ventilation, and the position of the operator's head with respect to the fume. When the solder is consumed, the fume decomposition products generated may be different in percent and form from the solid wire ingredients listed in Section 1. Fume decomposition products and not the ingredients in the wire are important.

STAY-CLEAN LIQUID

Flux is stable material in closed containers at room temperature under normal storage and handling conditions.

This material can be considered a weak acid. It can be mildly corrosive to some metals, especially when hot.

Incompatible with cyanides; may release HCl gas when mixed with Zinc Chloride. If combined with sulfides, the liquid flux may release H₂S gas.

SECTION 7 - SPILL OR LEAK PROCEDURES

Contain spill, absorb, sweep-up, dispose, flush area with water to chemical sewer. Dispose of in accordance with all federal, state, and local regulations.

SECTION 8 AND 9 - SPECIAL PROTECTION INFORMATION AND PRECAUTIONS

Read and understand the manufacturer's instructions and the precautionary label on the product. See American National Standard Z49.1, Safety in Welding and Cutting published by the American Welding Society, PO BOX 351040, Miami, FL 33135 and OSHA Publication 2206 (29CFR1910), U. S. Government Printing Office, Washington, D.C. 20402 for more details on many of the following.

VENTILATION-Use enough ventilation to keep the fumes below TLV's in the workers breathing zone and the general area. Train the employee to keep his head out of the fumes. See ANSI/ASC Z49.1 Section 5.

RESPIRATORY PROTECTION-When soldering in a confined space, or where local exhaust or ventilation does not keep exposure below TLV, use a respirable fume respirator or an air supplied respirator.

EYE PROTECTION-Wear protective eye wear if necessary to protect eyes from splashing of flux or molten solder.

PROTECTIVE CLOTHING-No specific clothing is required; however, wear sensible work clothes to protect skin from sparks, heat, flux, etc.

The information and recommendations contained in this publication have been compiled from sources believed to be reliable and to represent the best information on the subject at the time of issue. No warranty, guarantee, or representation is made by J. W. Harris Co., Inc. as to the absolute correctness or sufficiency of any representation contained in this and other publications; J. W. Harris Co., Inc. assumes no responsibility in connection therewith; nor can it be assumed that all acceptable safety measures are contained in this (and other publications), or that other or additional measures may not be required under particular or exceptional conditions or circumstances.

D.O.T. INFORMATION: Nonregulated substance
OUR PRODUCTS HAVE NO OZONE DEPLETING SUBSTANCES, (ODS).