WARNING: Protect yourself and others. Reed and understand this information.

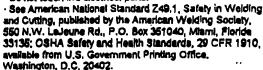
Soldering alloys and fluxes may produce FUMES AND GASES hazardous to your health.

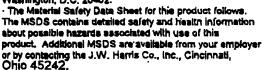
- · Bafore use, read and understand the menufacturar's instructions, Material Safety Data Sheet, (MSDS), and your employer's eafety practices.
- · Keep your head out of the furnes.

Stay-Brite

- Use enough ventilation, exhaust at the flame, or both, to keep fumes and gases from your breathing zone and the general srea.
- · For maximum safety, be cartified for and weer a respirator at all times when welding or brazing.

- Wear correct eye, ear, and body protection.
- · Do not touch live electrical parts.







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 Deerfleid Rd., Cincinnati, OH 45242	Telephone No. for Info.	1-513-891-2000	
		Date Prepared 12/95 (Supersedes	6/95)	
	Wire Composition Wt%			
TRADE NAME	<b>S</b> n Ag			

SECTION	ON 2 - I	HAZARDO	US INGREI	DIENTS

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 CY FAND LICTUD FILITY					

96.00

SIAI-CLEANS LIQUID FLUX					DEPARTMENT OF TRANSPOR	CTATION: DOMESTIC GROUND
INGREDIENT		PEL MG/M3	TLV MG/M3	STEL MG/M3	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 Chioride Solution)
Ammonium Chloride	12125-02-9 <25	10.0	10.0	20	Hagard Class:	Class 8
Water	7732-18-5 <70%	Not listed	Not listed	Not listed	ID & Packing Group No.	UN 1840, PG 111
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.

4.00

## 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 stornach. 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, erythmea, scaling, and possibly systemic effects. Petrolatum - May cause skin irritation upon continual use. Zinc Chloride - Furne or dust can cause dermatitis, and conjunctivitis. May cause rashes, boils, comeal burn, epigastric pain, nausea, vomiting, shock (internal). Tin - Tin fume may cause metal furne fever characterized by fever, body ache, and chills. Zinc - Zinc fume may cause metal furne 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, erythmea, and nausea.

#### NFPA HAZARD SIGNAL

			- '					
Health	1	Stability	0	Flammability	0	Special	0	
Soldering wi	re is a no	nhezerdous solid s	t ambient	temperature. Hazards (a lists product designations	s define	d by OSHA 29CF	R 1910, 1200) may	1
IMPORTAN	um <b>e</b> gene <b>i</b> – See S	erated during use. action 6 for inform	nation on	potential fume hazard n	esulting	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

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## 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 I lists nominal composition of the solid product. Section 6 lists exposure limits for decomposition products which might be present in furne generated during soldering. Actual exposure should be determined by monitoring the furne 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 tume may cause metal tume fever. Short term symptoms may include a metallic taste in the mouth, dryness or imitations of the throat followed by fever, body ache, and chills. Long term exposure to soldering tume, gases or dust may contribute to pulmonary imitation 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-Furnes from flux (zinc chloride, etc..) used during soldering may be irritating to respiratory tract.

#### CARCINOGENICITY NTP? NO LARC 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 I. Fume decomposition products and not the ingredients in the wire are important. STAY-CLEAN LIQUID

Fiux 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 furnes below TLV's in the workers breathing zone and the general area. Train the employee to keep his head out of the furnes. See ANSVASC 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).

MSDS #5-21

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