

\*\*\*\*\* MATERIAL SAFETY DATA SHEET \*\*\*\*\*

Version Date.....10/25/95  
Print Date.....11/16/05

5A - ACID CORE SILVER SOLDER

SECTION 1 PRODUCT IDENTIFICATION

COMPANY NAME WHO SENT MSDS..... J.W. HARRIS COMPANY  
COMPANY ADDRESS..... 4501 QUALITY PLACE  
MASON OHIO 45040  
EMERGENCY PHONE NUMBER..... (800)-424-9300  
MSDS VERSION NUMBER..... 1  
TRADE NAME..... 5A - ACID CORE SILVER SOLDER

HAZARD RATING (HMIS)..... NA  
HMIS DESIGNATION KEY..... NA

SECTION 2 HAZARDOUS COMPONENTS

MATERIAL	% BY WEIGHT	CAS NUMBER	OSHA PEL	ACGIH TLV (Mg/M3)	SEC 313
TIN	96.5	7440-31-5		2 MG/M3	NA
SILVER	3.5	7440-22-4		0.1 MG/M3	NA
AZELAIC ACID	<1	123-99-9		NOT ESTABLISHED	NA
UREA	<1	57-13-6		5 MG/M3	NA
ETHYLENE DIAMINE DIHYDROCHLORIDE	<1	333-18-6		50 PPM	NA
ETHYLAMINE HYDROCHLORIDE	<1	333-66-4		NOT ESTABLISHED	NA
SUCCINIMIDE	<1	123-56-8		NOT ESTABLISHED	NA

SECTION 3 PHYSICAL PROPERTIES

BOILING POINT..... 4026  
MELTING POINT..... NA  
VAPOR PRESSURE..... NA  
VAPOR DENSITY (AIR = 1)..... NA  
SOLUBILITY IN WATER..... WIRE/INSOLUBLE; CORE/APPRECIABLE  
SPECIFIC GRAVITY..... 7.38  
EVAPORATION RATE..... NA  
APPEARANCE AND ODOR..... SILVER, ORORLESS WIRE WITH LIQUID "CORE"  
RUNNING THROUGH CENTER

SECTION 4 FIRE AND EXPLOSION DATA

FLASH POINT..... NONE  
EXTINGUISHING MEDIA..... WATER SPRAY, CO2, ALCOHOL FOAM.  
SPECIAL PROCEDURES..... WHEN HEATED TO POINT OF VAPORIZATION,  
TOXIC FUMES ARE EMITTED. RESPIRATORY  
PROTECTION SHOULD BE WORN.

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<u>SECTION 4</u>	<u>FIRE AND EXPLOSION DATA</u>	CONT'D
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UNUSUAL HAZARDS..... SILVER PLUS AMMONIA MAY PRODUCE FULMINATE-LIKE COMPOUNDS WHICH MAY EXPLODE WHEN DRIED. ACETYLENE PLUS SILVER MAY FORM AN INSOLUBLE, EXPLOSIVE ACETYLIDE.

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<u>SECTION 5</u>	<u>REACTIVITY DATA</u>
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STABILITY..... STABLE  
CONDITIONS TO AVOID..... NONE  
HAZARDOUS POLYMERIZATION..... WILL NOT OCCUR  
INCOMPATIBILITY..... AMMONIA, ACETYLENE, STRONG ACIDS AND ALKALIS.  
HAZARDOUS DECOMPOSITION PRODUCTS AT TEMPERATURES ABOVE MELTING RANGE, OXIDE FUMES MAY EVOLVE.

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<u>SECTION 6</u>	<u>HEALTH HAZARD DATA</u>
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ROUTES OF ENTRY..... SWALLOWING, SKIN, INHALATION, EYES.  
HEALTH HAZARDS..... ARGYRIA, BLUE-GRAY DISCOLORATION OF SKIN, MUCOUS MEMBRANES & EYES MAY RESULT FROM INHALATION-MAY BE PERMANENT. ELEMENTAL TIN-NOT TOXIC, DUST OF TIN OXIDES MAY CAUSE PNEUMOCONIOSIS. AZELAIC ACID-PROLONGED CONTACT MAY CAUSE IRRITATION. UREA IRRITANT TO SKIN & EYES, DISAPPEARS NO ADVERSE EFFECTS. ETHYLENE DIAMINE DIHYDROCHLORIDE-IRRITATION SKIN AND MUCOSA, ALLERGIC DERMATITIS. HIGH SINGLE EXPOSURE (CONT.) CAN CAUSE TRACHEITIS, PULMONARY EDEMA. ETHYLENE HYDROCHLORIDE-IRRITATING TO EYES, SKIN, & RESP. TRACT. SUCCINIMIDE IRRITATION TO EYES AND SKIN DUE TO DUST. SOME DISCOMFORT IF INGESTED.  
CARCINOGENICITY.....  
SIGNS & SYMPTOMS OF EXPOSURE.... SEE ABOVE  
MEDICAL CONDITIONS FROM EXPOSURE SEE ABOVE

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SECTION 6

HEALTH HAZARD DATA

CONT'D

EMERGENCY & FIRST AID..... SWALLOWING-INDUCE VOMITING, CALL PHYSICIAN  
SKIN-FLUSH WITH WATER, CALL PHYSICIAN IF  
SYMPTOMS. INHALATION-REMOVE FROM EXPOSURE  
CALL PHYSICIAN. EYES-FLUSH WITH WATER FOR  
AT LEAST 15 MINUTES. IF SYMPTOMS, CALL  
PHYSICIAN.  
ADDITIONAL INFORMATION..... CARCINOGENITY - NA.

SECTION 7

PRECAUTIONS FOR SAFE HANDLING AND USE

SPILL AND LEAK PROCEDURES..... NA  
WASTE AND DISPOSAL METHOD..... NA  
HANDLING AND STORING PRECAUTIONS STORE IN DRY AREA AT AMBIENT TEMPERATURE.  
CRIMP END OF SOLDER NOTO IN USE TO PREVENT  
(FLUX) CORE LEAKAGE.  
OTHER PRECAUTIONS..... WASH THOROUGHLY AFTER HANDLING TO REMOVE  
ALL RESIDUE. REMOVE AND PROFESSIONALLY  
WASH CLOTHING BEFORE REUSE. WORK CLOTHES  
SHOULD BE WORN AND LAUNDERED IN ACCORDANCE  
WITH OSHA LEAD STANDARD 1910.1024 (G,2,1)  
GOOD HOUSEKEEPING PROCEDURES SHOULD BE  
MAINTAINED, AND PERSONNEL SHOULD WASH  
THOROUGHLY BEFORE SMOKING OR EATING. FOOD  
AND DRINK SHOULD NOT BE CONSUMED OR  
TOBACCO PRODUCTS USED, NOR COSMETICS  
APPLIED IN AREAS WHERE METAL EXPOSURES ARE  
POSSIBLE

SECTION 8

CONTROL MEASURES

RESPIRATORY MEASURES..... RESPIRATOR APPAROVED TO FILTER PARTICULATE  
MATTER IFI DUST EXCEEDS OSHA LIMITS.  
VENTILATION..... MAINATAIN AIR FLOW AWAY FROM USER TO  
EXHAUST ALL DUST AND FUMES SO THAT THE TLV  
IS NEVER EXCEEDED.  
PROTECTIVE GLOVES..... SAFETY GLOVES  
EYE PROTECTION..... WEAR SAFETY GLASSES TO PREVENT EYE CONTACT

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SECTION 8

CONTROL MEASURES

CONT'D

OTHER PROTECTIVE EQUIPMENT..... FULL PROTECTIVE EQUIPMENT USED IN SOLDER-  
ING OPERATIONS SO AS TO PREVENT ANY  
CONTACT.  
WORK/HYGIENIC PRACTICES..... FOR MAXIMUM SAFETY: BE CERTIFIED FOR AND  
WEAR A RESPIRATOR AT ALL TIMES WHEN WELD-  
ING OR BRAZING.

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SECTION 9

DISCLAIMER

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THIS DATA IS BELIEVED TO BE ACCURATE. HARRIS WEL

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SECTION 10

ADDITIONAL INFORMATION

NA = NOT APPLICABLE

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SECTION 11

ADDITIONAL INFORMATION