

J. W. HARRIS CO INC & HARRIS WELCO, DIVISION/J.W. HARRIS CO -- STAY-CLEAN PASTE
SOLDERING FLUX -- 3439-00-255-9935

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Product Identification
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Product ID:STAY-CLEAN PASTE SOLDERING FLUX

MSDS Date:09/10/1998

FSC:3439

NIIN:00-255-9935

Status Code:A

MSDS Number: CLDFP

=== Responsible Party ===

Company Name:J. W. HARRIS CO INC & HARRIS WELCO, DIVISION/J.W. HARRIS
CO

Address:1051 YORK RD

City:

City:KINGS MOUNTAIN

State:NC

ZIP:28086

Country:US

Info Phone Num:704-739-6421

Emergency Phone Num:704-739-6421

Resp. Party Other MSDS Num.:0136

Chemtrec Ind/Phone:(800)424-9300

CAGE:34920

=== Contractor Identification ===

Company Name:J. W. HARRIS CO INC & HARRIS WELCO, DIVISION/J.W. HARRIS
CO

Address:1051 YORK RD

Box:City:KINGS MOUNTAIN

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Composition/Information on Ingredients
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Ingred Name:PETROLATUM

CAS:

8009-03-8
RTECS #:SE6780000
< Wt:80.
Other REC Limits:NE
OSHA PEL:NE
OSHA STEL:NE
ACGIH TLV:NE
ACGIH STEL:NE

Ingred Name:ZINC CHLORIDE
CAS:7646-85-7
RTECS #:ZH1400000
< Wt:40.
Other REC Limits:NIOSH REL:1 MG/M3 TW
OSHA PEL:1 MG/M3
OSHA STEL:2 MG/M3
ACGIH TLV:1 MG/M3
ACGIH STEL:2 MG/M3
EPA Rpt Qty:1000 LBS
DOT Rpt Qty:1000 LBS

Ingred Name:ETHYLENE GLYCOL
CAS:107-21-1
RTECS #:KW2975000
< Wt:15.
Other REC Limits:DFG MAK: 10 PPM
OSHA PEL:NE
OSHA STEL:NE
ACGIH TLV:NE
ACGIH STEL:100 MG/M3:A
EROSOL
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

Ingred Name:AMMONIUM CHLORIDE
CAS:12125-02-9
RTECS #:BP4550000
< Wt:10.
Other REC Limits:NIOSH REL:10 MG/M3 T
OSHA PEL:10 MG/M3
OSHA STEL:20 MG/M3
ACGIH TLV:10 MG/M3
ACGIH STEL:20 MG/M3
EPA Rpt Qty:5000 LBS
DOT Rpt Qty:5000 LBS

Ingred Name:WATER
CAS:7732-18-5
RTECS #:ZC0110000
Fraction by Wt: BALANCE
Other REC Limits:NE
OSHA PEL:NE
OSHA STEL:NE
ACGIH TLV:NE
ACGIH STEL:NE

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===== Hazards Identification =====

Routes of

Entry: Inhalation: YES Skin: YES Ingestion: NO
Reports of Carcinogenicity: NTP: NO IARC: NO OSHA: NO

Health Hazards Acute and Chronic: TARGET ORGANS: EYE, SKIN. ACUTE: THE CHIEF HEALTH HAZARD ASSOCIATED WITH THIS PRODUCT WOULD BE THE POTENTIAL FOR MILD IRRITATION OF CONTAMINATED TISSUE. THOUGH UNLIKELY TO OCCUR DURING OCCUPATIONAL USE, INGESTION OF LARGE QUANTITIES MAY BE FATAL. CHRONIC: DERMATITIS MAY RESULT IN CHRONIC SKIN CONTACT TO THIS PRODUCT. REFER TO TOXICOLOGY INFORMATION FOR

ADDITIONAL DATA ON THIS PRODUCT'S COMPONENTS.

Explanation of Carcinogenicity: ETHYLENE GLYCOL (AEROSOL) IS LISTED AS FOLLOWS: ACGIH-A4 (NOT CLASSIFIABLE AS TO HUMAN CARCINOGENICITY). THE OTHER COMPONENTS OF THIS PRODUCT ARE NOT FOUND ON THE FOLLOWING LISTS: FEDERAL OSHA Z LIST, NTP, CAL/OSHA, & THEREFORE ARE NOT CONSIDERED TO BE, CANCER-CAUSING AGENTS BY THESE AGENCIES.

Effects of Overexposure: INHALATION-SYMPTOMS OF SUCH OVEREXPOSURE MAY INCLUDE NASAL CONGESTION & SNEEZING. EXTREME INHALATION

OVER-EXPOSURE TO ZINC CHLORIDE CAN HAVE ADVERSE EFFECTS ON THE LUNGS (I.E. CAUSING PULMONARY EDEMA & PNEUMONITIS, LIFE-THREATENING LUNG CONDITIONS). INHALATION OF ZINC CHLORIDE FUMES CAUSE METAL FUME FEVER. SYMPTOMS OF OVER-EXPOSURE INCLUDE HEADACHE, FEVER, RAPID BREATHING, SWEATING & PAINS IN LEGS & CHEST. SEVERE VAPOR INHALATION MAY BE HARMFUL. SKIN OR EYES-THIS PRODUCT MAY BE SLIGHTLY IRRITATING TO THE SKIN. IF PASTE ENTERS THE EYES,

MILD IRRITATION MAY OCCUR & RESULTING IN REDNESS & WATERING. "SEE OTHER INFORMATION"

Medical Cond Aggravated by Exposure: THOUGH THIS PASTE IS NOT CLASSIFIED AS A SENSITIZER, PETROLATUM (THE MAIN COMPONENT OF THIS PRODUCT) MAY CAUSE ALLERGIC SKIN REACTION IN HYPERSENSITIVE INDIVIDUALS.

===== First Aid Measures =====

First Aid: SKIN-RINSE AFFECTED AREA WITH SOAP & WATER SOLUTION. IF IRRITATION RESULTS, FLUSH FOR 15 MINS. SEEK MEDICAL ATTENTION IF

ADVERSE EFFECTS OCCUR, OR IF CONTACT HAS RESULTED IN THERMAL BURNS. EYE-OPEN VICTIM'S EYE WHILE UNDER GENTLE RUNNING WATER. USE SUFFICIENT FORCE TO OPEN EYELIDS. HAVE VICTIM "ROLL" EYES. MINIMUM FLUSHING IS 15 MINS. VICTIM MUST SEEK MEDICAL ATTENTION IF ADVERSE EFFECTS OCCUR, OR IF EYE RESULTS IN THERMAL BURN. INHALATION-REMOVE VICTIM TO FRESH AIR. HAVE VICTIM BLOW NOSE. INGESTION-CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. "S

EE OTHER INFORMATION"

===== Fire Fighting Measures =====

Flash Point Method:COC

Flash Point:>198.C, 388.4F

PETROLATUM

Autoignition Temp:Autoignition Temp Text:N/D

Extinguishing Media:WATER SPRAY (FOR COOLING), HALON, DRY CHEMICAL,
CARBON DIOXIDE, FOAM, OTHER (ANY CLASS B)

Fire Fighting Procedures:NOT APPLICABLE.

Unusual Fire/Explosion Hazard:THIS PRODUCT MUST BE SUBSTANTIALLY
PREHEATED BEFORE IGNITION CAN OCCUR. THIS PRODUCT CAN FLOAT ON
WATER AND

MAY TRAVEL TO DISTANT LOCATIONS. DURING A FIRE,
IRRITATING AND TOXIC GASES (I.E. CARBON MONO XIDE, CARBON DIOXIDE,
HYDROGEN CHLORIDE) MAY BE GENERATED.

===== Accidental Release Measures =====

Spill Release Procedures:ABSORB SPILLED PASTE FLUX WITH POLYPADS OR
OTHER SUITABLE ABSORBENT. RINSE AREA WITH SOAP AND WATER SOLUTION.
IF HEATED PRODUCT HAS BEEN SPILLED, ALLOW THE MATERIAL TO COOL
BEFORE CLEAN-UP PROCEDURES BEGIN. DECONTAMINATE AREA THOROUGHLY.

PLACE ALL SPILL RESIDUE IN SUITABLE CONTAINER AND SEAL.

===== Handling and Storage =====

Handling and Storage Precautions:ALL EMPLOYEES WHO HANDLE THIS MATERIAL
SHOULD BE TRAINED TO HANDLE IT SAFELY. STANDARD SAFETY PRACTICES
ASSOCIATED WITH WELDING & BRAZING OPERATIONS SHOULD BE FOLLOWED
WHEN USING THIS PRODUCT. OPEN CONTAINERS SLOWLY, ON A STABLE
SURFACE. AVOID EXPOSURE TO OPEN FLAMES, HOT SURFACES, IGNITION
SOURCES.

Other Precautions:

STORE THIS PRODUCT IN A COOL, DRY LOCATION, AWAY FROM
DIRECT SUNLIGHT, SOURCES OF INTENSE HEAT, OR WHERE FREEZING IS
POSSIBLE. STORE AWAY FROM INCOMPATIBLE CHEMICALS. KEEP CONTAINER
TIGHTLY CLOSED WHEN NOT IN USE. INSPECT ALL INCOMING CONTAINERS
BEFORE STORAGE TO ENSURE THEY ARE PROPERLY LABELED & NOT DAMAGED.

===== Exposure Controls/Personal Protection =====

Respiratory Protection:NO RESPIRATORY PROTECTION IS NORMALLY REQUIRED
WHEN USING THIS PRODUCT

ODUCT. MAINTAIN AIRBORNE CONTAMINANT CONCENTRATIONS BELOW GUIDELINES. IF RESPIRATORY PROTECTIONS IS NEEDED, USE ONLY PROTECTION AUTHORIZED IN US FEDERAL OSHA STANDARD (29CFR1910.134), APPLICABLE US STATE REGULATIONS, OR THE APPROPRIATE STANDARDS OF CANADA AND ITS PROVINCES.

Ventilation: NO SPECIAL VENTILATION SYSTEMS OR ENGINEERING CONTROLS ARE NORMALLY REQUIRED WHEN USING THIS PRODUCT.

Protective Gloves: BUTYL RUBBER, NITRILE RUBBER, POLYFLUORINATED POLYETHYLENE GLOVES.

Eye

Protection: SAFETY GLASSES OR GOGGLES; IF HEATED A FACE SHIELD IS RECOMMENDED.

Other Protective Equipment: EYEWASH SAFETY SHOWER STATIONS NEAR AREAS WHERE PRODUCT IS USED. BODY PROTECTION: NONE NORMALLY NEEDED. USE BODY PROTECTION APPROPRIATE FOR TASK (I.E. APRON, COVERALLS, CHEMICALLY-RESISTANT BOOTS).

Work Hygienic Practices: AS WITH ALL CHEMICALS, AVOID GETTING THIS PRODUCT ON YOU OR IN YOU. WASH THOROUGHLY AFTER USING THIS PRODUCT. DO NOT EAT, DRINK, SMOKE OR APPLY COSMETICS WHILE HANDLING THIS PRODUCT.

Supplemental Safety and Health

RESPIRATORY: USE SUPPLIED AIR RESPIRATION PROTECTION IF OXYGEN LEVELS ARE BELOW 19.5% OR ARE UNKNOWN. FOR ADDITIONAL INFORMATION THE NIOSH RECOMMENDED RESPIRATORY PROTECTION GUIDELINES FOR ZINC CHLORIDE FUMES ARE PROVIDED (SEE MANUFACTURERS MATERIAL SAFETY DATA SHEET).

===== Physical/Chemical Properties =====

HCC:N1

Melt/Freeze Pt: M.P/F.P Text: 37-60C (100-140F)

Spec Gravity: 0.815-0.88

Evaporation Rate & Reference: 1.5 (NBUAC=1)

Solubility in Water: INSOLUBLE

Appearance and Odor: OPAQUE, ODORLESS, TAN/GOLD GEL

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid: YES

THIS PRODUCT IS NOT COMPATIBLE WITH STRONG OXIDIZING AGENTS

Stability Condition to Avoid: AVOID EXPOSING THIS PRODUCT TO INCOMPATIBLE MATERIALS.

Hazardous Decomposition Products: CARBON OXIDES, A VARIETY ORGANIC MOLECULES, HYDROGEN CHLORIDE, ZINC OX

IDES, NITROGEN OXIDES AND
AMMONIA.

Conditions to Avoid Polymerization:AVOID EXPOSING THIS PRODUCT TO
INCOMPATIBLE MATERIALS.

===== Toxicological Information =====

Toxicological Information:IRRITANCY OF PRODUCT: THIS PRODUCT MAY BE
SLIGHTLY IRRITATING TO CONTAMINATED TISSUE. SENSITIZATION TO THE
PRODUCT: PETROLATUM MAY CAUSE ALLERGIC SKIN REACTION IN
HYPERSENSITIVE INDIVIDUALS. REPRODUCTIVE TOXICITY INFORMATION:
MUTAGENICITY-THIS PRODUCT IS NOT REPORTED TO PRODUCE MUTAGENIC
EFFECTS IN HUMANS. ANIMAL MUTATION DATA ARE AVAILABLE FOR AMMONIUM
CHLORIDE, ETHYLENE GLYCOL, & ZINC CHLORIDE & WAS OBTAINED DURING
CLINICAL STUDIES ON SPECIFIC TISSUES EXPOSED TO HIGH DOSES OF THESE
COMPOUNDS. EMBRYOTOXICITY-THIS PRODUCT IS NOT REPORTED TO PRODUCE
EMBRYOTOXIC EFFECTS IN HUMANS. "SEE MANUFACTURER'S MSDS FOR
COMPLETE DATA"

===== Ecological Information =====

Ecological:ALL WORK PRACTICES
MUST BE AIMED AT ELIMINATING
ENVIRONMENTAL CONTAMINATION. ENVIRONMENTAL STABILITY-THE COMPONENTS
OF THIS PRODUCT WILL SLOWLY REACT WITH WATER, OXYGEN, & OTHER
SUBSTANCES TO FORM A WIDE VARIETY OF INORGANIC COMPOUNDS. EFFECT
OF MATERIAL ON PLANTS OR ANIMALS-THIS PRODUCT MAY BE HARMFUL TO
PLANTS & ANIMALS, DEPENDING ON THE QUANTITY & DURATION OF
OVER-EXPOSURE. EFFECT OF CHEMICAL ON AQUATIC LIFE: BECAUSE THIS
PRODUCT CONTAINS A PETROLEUM-BASED MATERIAL WHICH CAN FLOAT
ON
WATER, THEREBY DEPRIVING OXYGEN TO IMPACTED BODIES OF WATER, LARGE
RELEASES OF THIS PRODUCT MAY BE HARMFUL TO AQUATIC PLANT & ANIMAL
LIFE. "SEE MSDS"

===== Disposal Considerations =====

Waste Disposal Methods:WASTE DISPOSAL MUST BE IN ACCORDANCE WITH
APPROPRIATE U.S. FEDERAL, STATE & LOCAL REGULATIONS OR WITH
REGULATIONS OF CANADA & ITS PROVINCES. THIS PRODUCT, IF UNALTERED
BY USE, MAY BE DISPOSED OF BY TREATMENT AT A PERMITTED FACILITY

Y OR
AS ADVISED BY YOUR LOCAL HAZARDOUS WASTE REGULATORY AUTHORITY.

===== MSDS Transport Information =====

Transport Information: THIS MATERIAL IS NOT HAZARDOUS (PER 49 CFR 172.101) BY THE US DEPARTMENT OF TRANSPORTATION. PROPER SHIPPING NAME: NOT APPLICABLE. HAZARD CLASSIFICATION NUMBER & DESCRIPTION: NOT APPLICABLE. UN IDENTIFICATION NUMBER: NOT APPLICABLE. PACKING GROUP: DOT LABEL(S) REQUIRED: NOT APPLICABLE. NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER, 1996: NOT APPLICABLE. MARINE POLLUTANT: THE COMPONENTS OF THIS PRODUCT ARE NOT DESIGNATED BY THE DEPARTMENT OF TRANSPORTATION TO BE MARINE POLLUTANTS (49 CFR 172.1010, APPENDIX B). TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: -THIS MATERIAL IS NOT CONSIDERED A DANGEROUS GOODS.

===== Regulatory Information =====

SARA Title III Information: SARA 302 (40 CFR 355, APPENDIX A): AMMONIUM CHLORIDE-NO, ETHYLENE GLYCOL-NO, ZINC CHLORIDE-NO. SARA 304 (40 CFR TABLE 302.4): AMMONIUM CHLORIDE-YES, ETHYLENE GLYCOL-YES ZINC CHLORIDE-YES. SARA 313 (40 CFR 372.65): AMMONIUM CHLORIDE-NO, ETHYLENE GLYCOL-YES ZINC CHLORIDE-YES (AS ZINC COMPOUND). U.S. SARA THRESHOLD PLANNING QUANTITY: NOT APPLICABLE. U.S. CERCLA REPORTABLE QUANTITY (RQ): AMMONIUM CHLORIDE=5000 LB; ETHYLENE GLYCOL=5000 LB; ZINC CHLORIDE=1000 LB.

Federal Regulatory Information: U.S EPA WASTE NUMBER: NOT APPLICABLE TO WASTES CONSISTING ONLY OF THIS PRODUCT. U.S. TSCA INVENTORY STATUS: THE COMPONENTS OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY.

State Regulatory Information: ALASKA, CALIFORNIA, FLORIDA, ILLINOIS, MASSACHUSETTS, MINNESOTA, MISSOURI,, NEW JERSEY & PENNSYLVANIA: AMMONIUM CHLORIDE, ETHYLENE GLYCOL, ZINC CHLORIDE FUME. RHODE ISLAND: AMMONIUM CHLORIDE FUME, ETHYLENE GLYCOL, ZINC CHLORIDE FUME. MICHIGAN: NO. KANSAS: ETHYLENE GLYCOL. NORTH DAKOTA: AMMONIUM CHLORIDE, ZINC CHLORIDE. TEXAS, WEST VIRGINIA, & WISCONSIN: ZINC CHLORIDE FUME. CALIFORNIA SAFE DRINKING WATER & TOXIC ENFORCEMENT ACT (PROPOSITION 65): NO COMPONENT OF THIS PRODUCT IS ON THE CALIFORNIA PROPOSITION 65 LISTS.

===== Other Information =====

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