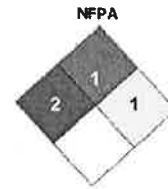


Personal Protective Equipment 		WHMIS Pictograms 	DOT Pictograms <div style="border: 2px solid black; padding: 5px; text-align: center;"> Not Regulated </div>
Safety Glasses	Protective Gloves	D2A Toxic	

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name: **Add**
 MSDS Manufacturer Number: Acid
 Product Use/Restriction: Flux cored solder
 Manufacturer Name: Kester
 Address: 800 W. Thorndale Avenue
 Itasca, IL 60143
 General Phone Number: (630)-616-4000
 Customer Service Phone Number: (800)-2KESTER (253-7837)
 CHEMTREC: For emergencies In the US, call CHEMTREC: 800-424-9300
 Outside of the U.S. and Canada: (703) 527-3887
 Website: msds@kester.com
 MSDS Revision Date: September 17, 2009



HMIS	
Health Hazard	2*
Fire Hazard	1
Reactivity	1
Personal Protection	X

* Chronic Health Effects

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent	EC Num.
Zinc Chloride	7646-85-7	0 - 5 by weight	
Antimony	7440-36-0	0 - 10 by weight	
Bismuth	7440-69-9	0 - 70 by weight	
Copper	7440-50-8	0 - 10 by weight	
Lead	7439-92-1	0 - 100 by weight	
Silver	7440-22-4	0 - 10 by weight	
Tin	7440-31-5	0 - 100 by weight	
Zinc	7440-66-6	0 - 10 by weight	
Aniline Hydrochloride	142-04-1	0 - 5 by weight	
Proprietary ingredient(s)	Proprietary	1 - 5 by weight	

SECTION 3 - HAZARDS IDENTIFICATION

Emergency Overview: **WARNING!** Severe Irritant. Exposures to soldering fumes and vapors may be irritating to eyes, respiratory system, and skin.

Route of Exposure: Eyes, Skin, Inhalation, Ingestion.

Eye: Smoke during soldering can cause eye irritation.

Skin: May cause skin irritation.
 May cause skin sensitization, an allergic reaction, which becomes evident on reexposure to this material.

Inhalation: Inhalation of vapors, fumes or mists of the product may be irritating to the respiratory system.
 May cause sensitization by inhalation.

Ingestion: Ingestion of the product may produce gastrointestinal irritation and disturbances.

Chronic Health Effects: Suspected of damaging fertility or the unborn child
 Repeated and prolonged exposure to lead and lead compounds may cause abdominal pain, diarrhea, loss of appetite, metallic taste, nausea, vomiting,

lassitude, insomnia, muscle weakness, joint and muscle pain, irritability, headache and dizziness.
 Red blood cells may be damaged resulting in anemia. Gastritis and injury to the kidneys, liver, male gonads, and central nervous system may also occur.
 Eyes. Skin. Respiratory system. Digestive system.
 None generally recognized.

Target Organs:
 Aggravation of Pre-Existing Conditions:
Lead:
 Carcinogenicity: IARC: Group 2B: Possibly carcinogenic to humans.

SECTION 4 - FIRST AID MEASURES

Eye Contact: Immediately flush eyes with plenty of water for 15 to 20 minutes. Get medical attention, if irritation or symptoms of overexposure persists.
 Skin Contact: Immediately wash skin with plenty of soap and water for 15 to 20 minutes, while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.
 Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
 Ingestion: If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

SECTION 5 - FIRE FIGHTING MEASURES

Flash Point: > 93°C (> 199°F)
 Lower Flammable/Explosive Limit: Not applicable.
 Upper Flammable/Explosive Limit: Not applicable.
 Extinguishing Media: Use alcohol resistant foam, carbon dioxide, dry chemical, or water fog or spray when fighting fires involving this material.
 Unsuitable Media: Do not use a solid water stream as it may scatter and spread fire.
 Protective Equipment: As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
 Hazardous Combustion Byproducts: Oxides of carbon, oxides of nitrogen, aliphatic aldehydes, and other organic substances may be formed during combustion. Zinc oxide

NFPA Ratings:

NFPA Health: 2
 NFPA Flammability: 1
 NFPA Reactivity: 1

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personnel Precautions: Evacuate area and keep unnecessary and unprotected personnel from entering the spill area. Avoid breathing vapor, aerosol or mist. Avoid contact with skin, eyes and clothing.
 Environmental Precautions: Avoid runoff into storm sewers, ditches, and waterways.
 Methods for containment: Contain spills with an inert absorbent material such as soil, sand or oil dry.
 Methods for cleanup: Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Clean up spills immediately observing precautions in the protective equipment section.

SECTION 7 - HANDLING and STORAGE

Handling: Corrosive. Use proper personal protective equipment as listed in section 8. Use with adequate ventilation. Avoid breathing vapor and fumes. Use only in accordance with directions.
 Storage: Store in a cool, dry, well ventilated area away from sources of heat and incompatible materials. Keep container tightly closed when not in use.
 Hygiene Practices: Wash thoroughly after handling. Avoid inhaling vapors, mists, or fumes.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls: Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
 Eye/Face Protection: Tightly fitting safety goggles. Wear a face shield also when splash hazard exist.
 Hand Protection Description: Wear appropriate protective gloves. Consult glove manufacturer's data for permeability data. Nitrile rubber or natural rubber gloves are recommended.
 Respiratory Protection: A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air

purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

Other Protective:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

EXPOSURE GUIDELINES

Zinc Chloride :

Guideline ACGIH: TLV-TWA: 1 mg/m³
TLV-STEL: 2 mg/m³

Guideline OSHA: PEL-TWA: 1 mg/m³

Antimony :

Guideline ACGIH: TLV-TWA: 0.5 mg/m³

Guideline OSHA: PEL-TWA: 0.5 mg/m³

Copper :

Guideline ACGIH: TLV-TWA: 1 mg/m³

Guideline OSHA: PEL-TWA: 1 mg/m³

Lead :

Guideline ACGIH: TLV-TWA: 0.05 mg/m³

Guideline OSHA: PEL-TWA: 0.05 mg/m³

Silver :

Guideline ACGIH: TLV-TWA: 0.1 mg/m³

Guideline OSHA: PEL-TWA: 0.01 mg/m³

Tin :

Guideline ACGIH: TLV-TWA: 2 mg/m³

Guideline OSHA: PEL-TWA: 2 mg/m³

SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES

Physical State: Solid
Color: Silver grey
Odor: Mild
Melting Point: > 100°C (> 212°F)
Density: > 7 g/cm³ @ 20°C (68°F)
Solubility: Not miscible or difficult to mix.
Flash Point: > 93°C (> 199°F)
Explosive Properties: Product does not present an explosion hazard.

SECTION 10 - STABILITY and REACTIVITY

Chemical Stability: Stable under normal temperatures and pressures.
Hazardous Polymerization: Not reported.
Conditions to Avoid: Heat, flames, incompatible materials, freezing or temperatures below 32 deg. F.
Incompatible Materials: Oxidizing agents. Strong acids and alkalis.

SECTION 11 - TOXICOLOGICAL INFORMATION

Zinc Chloride :

RTECS Number: ZH1400000

Ingestion: Oral - Rat LD50: 350 mg/kg [Details of toxic effects not reported other than lethal dose value.]
Oral - Mouse LD50: 329 mg/kg [Details of toxic effects not reported other than lethal dose value.] (RTECS)

Antimony :

Ingestion: Oral - Rat LD50: 100 mg/kg [Details of toxic effects not reported other than lethal dose value.] (RTECS)

Bismuth :

Ingestion: Oral - Mouse LD50: 10 gm/kg [Details of toxic effects not reported other than lethal dose value.]
Oral - Rat LD50: 5 gm/kg [Details of toxic effects not reported other than lethal dose value.] (RTECS)

Copper :

Ingestion: Oral - Mouse LD50: 413 mg/kg [Details of toxic effects not reported other than lethal dose value.]
Oral - Mouse LD50: >5000 mg/kg [Behavioral - food intake (animal)
Gastrointestinal - hypermotility, diarrhea Gastrointestinal - nausea or vomiting] (RTECS)

Silver :

Ingestion: Oral - Mouse LD50: 100 mg/kg [Details of toxic effects not reported other than lethal dose value.] (RTECS)

Zinc :

Skin: Skin - Human Standard Draize Test. : 300 ug/3D-I - [mild](RTECS)

Inhalation: Inhalation. - Human TClO - Lowest published toxic concentration: 124 mg/m³/50M - [Lungs, Thorax, or Respiration - cough Lungs, Thorax, or Respiration - dyspnea Skin and Appendages - sweating] (RTECS)

Ingestion: Oral - Bird duck LDLo: 388 mg/kg - [Autonomic Nervous System - other (direct) parasympathomimetic oral - ataxia Blood - changes in leukocyte (WBC) count] (RTECS)

Aniline Hydrochloride :

RTECS Number: CY0875000
Eye: Eye - Rabbit Standard Draize test: 20 mg/24H (RTECS)
Skin: Administration onto the skin - Rabbit Standard Draize test: 500 mg/24H (RTECS)
Ingestion: Oral - Rat LD50: 840 mg/kg [Details of toxic effects not reported other than lethal dose value.]
Oral - Mouse LD50: 841 mg/kg [Details of toxic effects not reported other than lethal dose value.] (RTECS)

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity: No ecotoxicity data was found for the product.
Environmental Fate: No environmental information found for this product.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal: Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.

SECTION 14 - TRANSPORT INFORMATION

DOT Shipping Name: Not Regulated.
DOT UN Number: Not Regulated.
IATA Shipping Name: Not Regulated.
IATA UN Number: Not Regulated.
IMDG UN Number : Not Regulated.
IMDG Shipping Name : Not Regulated.
RID UN Number : Not Regulated.
RID Shipping Name : Not Regulated.

SECTION 15 - REGULATORY INFORMATION

Canada Reg. Status: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by the Controlled Products Regulations.

Canada WHMIS: Controlled - Class: D2A Very Toxic

Zinc Chloride :

TSCA Inventory Status: Listed
Canada DSL: Listed

Antimony :

TSCA Inventory Status: Listed
Canada DSL: Listed

Bismuth :

TSCA Inventory Status: Listed
Canada DSL: Listed

Copper :

TSCA Inventory Status: Listed
Canada DSL: Listed

Lead :

TSCA Inventory Status: Listed
Canada DSL: Listed

Silver :

TSCA Inventory Status: Listed
Canada DSL: Listed

Tin :

TSCA Inventory Status: Listed
Canada DSL: Listed

Zinc :

TSCA Inventory Status: Listed
Canada DSL: Listed

Aniline Hydrochloride :

TSCA Inventory Status: Listed
Canada DSL: Listed

WHMIS Pictograms



SECTION 16 - ADDITIONAL INFORMATION

General Use: Flux cored solder
HMIS Health Hazard: 2*
HMIS Fire Hazard: 1
HMIS Reactivity: 1
HMIS Personal Protection: x
MSDS Revision Date: September 17, 2009

Disclaimer:

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