MATERIAL SAFETY DATA SHEET

MSDS 0121

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME
C-Flux

PRODUCT CODES
74025, 74026, 74027, 74028, 74029

CHEMICAL FAMILY
Organic/Inorganic

USE
Soldering Flux

MANUFACTURER'S NAME
The RectorSeal Corporation
2601 Spenwick Drive
Houston, Texas 77055 USA

DATE OF VALIDATION
August 1, 2012

DATE OF PREPARATION
August 1, 2012

HMIS CODES

Health	2
Flammability	1
Reactivity	0
PPI	B

EMERGENCY TELEPHONE NO.
Chemtrec 24 Hours
(800)424-9300 USA
(703)527-3887 International

TECHNICAL SERVICE TELEPHONE NO.
(800)231-3345 or (713)263-8001

Section 2 -- HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
OSHA Hazards
Irritant
GHS CLASSIFICATION
PHYSICAL HAZARDS: None
HEALTH HAZARDS
Acute Toxicity:
Oral: Not Classified
Dermal: Not Classified
Inhalation: Not Classified
Skin Corrosion/Irritation: Not Classified
Serious Eye Damage/Eye Irritation: Not Classified
Respiratory or Skin Sensitization: Not Classified
Germ Cell Mutagenicity: Not Classified
Carcinogenicity: Not Classified
Reproductive Toxicology: Not Classified
Target Organ Systemic Toxicity - Single Exposure: Not Classified
Target Organ Systemic Toxicity - Repeated Exposure: Not Classified
Aspiration Toxicity: Not Classified

GHS Label elements, including precautionary statements
Pictogram: Irritant
Signal Word: Warning
Hazard Statements:
H302 - Harmful if swallowed.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
Precautionary Statements:
P102 - Keep out of reach of children.

P262 - Do not get in eyes, on skin, or on clothing.
P264 - Wash hands thoroughly after handling.
P281 - Use personal protective equipment as required.

SUMMARY OF ACUTE HAZARDS

Irritation to respiratory system from fumes evolved during soldering. Eye contact may cause intense irritation and injury.

ROUTE OF EXPOSURE, SIGNS AND SYMPTOMS

INHALATION

Irritation to respiratory system from fumes evolved during soldering.

EYE CONTACT

Contact may cause intense irritation and injury.

SKIN CONTACT

May cause skin irritation.

INGESTION

Nausea, vomiting, irritation to digestive system.

SUMMARY OF CHRONIC HAZARDS

Short term effects to liver and kidneys can occur. Chemical irritation from continued skin contact can occur. Continuous industrial use in small unventilated areas may result in sufficient inhalation of solder and flux fumes to cause lung damage and irritation of respiratory tract.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Individuals with pre-existing or chronic diseases of the eyes, skin, respiratory system, cardiovascular system, gastrointestinal system, liver, or kidneys may have increased susceptibility to excessive exposure.

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Section 3 -- COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT: Zinc Chloride
PERCENTAGE BY WEIGHT: <20
CAS#: 7646-85-7
EC#: 231-592-0

INGREDIENT: Ammonium Chloride
PERCENTAGE BY WEIGHT: <1
CAS#: 12125-02-9
EC#: 235-186-4

INGREDIENT: Zinc Oxide
PERCENTAGE BY WEIGHT: <10
CAS#: 1314-13-2
EC#: 215-222-5

INGREDIENT: Tin
PERCENTAGE BY WEIGHT: -
CAS#: 7440-31-5
EC#: 231-141-8

INGREDIENT: Antimony
PERCENTAGE BY WEIGHT: <1
CAS#: 7440-36-0
EC#: 231-146-5

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Section 4 -- FIRST AID MEASURES

If INHALED: If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as

needed. Obtain emergency medical attention. Prompt action is essential.

If on SKIN: Immediately wash with soap and water. Remove and wash any contaminated clothing.

If in EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention if irritation persists.

If SWALLOWED: If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

Section 5 -- FIRE FIGHTING MEASURES

EXTINGUSING MEDIA

Foam, dry chemical, carbon dioxide or water fog.

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained full face piece breathing apparatus and other protective clothing. Hazardous decomposition products possible (see Section 10). May release ZnO and HCl fumes.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Heat may build up pressure and rupture closed containers.

Section 6 -- ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Wipe up spills to prevent footing hazard. Avoid flushing into sewers, drains, waterways and soil. Wear protective clothing during clean up.

Section 7 -- HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Keep container closed and upright when not in use. Store flux at ambient conditions. Wash thoroughly after handling to remove all residue.

OTHER PRECAUTIONS: Avoid prolonged or repeated contact with skin or clothing.

Empty containers may contain residues; treat as if full and observe all products precautions. Do not reuse empty containers.

Section 8 -- EXPOSURE CONTROLS/PERSONAL PROTECTION

INGREDIENT		UNITS
Zinc Chloride		
	ACGIH TLV	1 mg/m3
	OSHA PEL	1 mg/m3
Ammonium Chloride		
	ACGIH TLV	10 mg/m3
	OSHA PEL	10 mg/m3
Zinc Oxide		
	ACGIH TLV	5 mg/m3
	OSHA PEL	5 mg/m3
Tin		
	ACGIH TLV	5 mg/m3
	OSHA PEL	5 mg/m3
Antimony		
	ACGIH TLV	0.5 mg/m3
	OSHA PEL	0.5 mg/m3

RESPIRATORY PROTECTION (SPECIFY TYPE): In confined, poorly ventilated areas, use NIOSH/MSHA approved air purifying or supplied air respirators during

soldering operations until fumes have dissipated.
VENTILATION - LOCAL EXHAUST: Acceptable
SPECIAL: N/A
MECHANICAL (GENERAL): Acceptable
OTHER: N/A
PROTECTIVE GLOVES: Wear rubber gloves.
EYE PROTECTION: Safety glasses (ANSI Z-87.1 or equivalent)
OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Coveralls recommended.
WORK/HYGIENIC PRACTICES: Where use can result in skin contact, wash exposed areas thoroughly before eating, drinking, smoking, or leaving work area. Launder contaminated clothing before reuse.

Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT:	N/D
SPECIFIC GRAVITY (H20 = 1):	1.59
VAPOR PRESSURE (mm Hg):	N/D
MELTING POINT:	N/D
VAPOR DENSITY (AIR = 1):	N/A
EVAPORATION RATE (ETHYL ACETATE = 1):	N/A
APPEARANCE/ODOR:	Gray Paste / No Odor
SOLUBILITY IN WATER:	Insoluble
Flash POINT	>230 F (110 C) SETA CC
LOWER EXPLOSION LIMIT	N/D
UPPER EXPLOSION LIMIT	N/D
VOLATILE ORGANIC COMPOUNDS(VOC)Content (Theoretical Percentage By Weight):	0% or (0 g/L)

Section 10 -- STABILITY AND REACTIVITY

STABILITY: Stable
CONDITIONS TO AVOID: None
INCOMPATIBILITY (MATERIALS TO AVOID): None known
HAZARDOUS DECOMPOSITION PRODUCTS: Toxic fumes of zinc, chlorine, and HCL may be evolved during soldering.
HAZARDOUS POLYMERIZATION: Will not occur.

Section 11 -- TOXICOLOGY INFORMATION

CHRONIC HEALTH HAZARDS
No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.

TOXICOLOGY DATA
Ingredient Name

Zinc Chloride
Oral-Rat LD50:350 mg/kg
Inhalation-Rat LCLo:1960 mg/m3/10M

Ammonium Chloride
Oral-Rat LD50:1650 mg/kg
Inhalation-Rat LC50:N/D

Zinc Oxide
Oral-Rat TDLo:6846 mg/kg
Inhalation-Mouse LC50:2500 mg/m3

Tin
Oral-Rat TD50:N/D
Inhalation-Rat LC50:N/D

Antimony
Oral-Rat LD50:7 g/kg
Inhalation-Rat TCLo:50 mg/m3/7H/52W-I

Section 12 -- Ecological Information

ECOLOGICAL DATA

Ingredient Name		
Zinc Chloride		
	Food Chain Concentration Potential	None
	WATERFOWL TOXICITY	N/A
	BOD	None
	AQUATIC TOXICITY: 7.2 ppm/96 hr/medium bluegill/TLm	
Ammonium Chloride		
	Food Chain Concentration Potential	None
	WATERFOWL TOXICITY	N/A
	BOD	N/A
	AQUATIC TOXICITY: 6 ppm/96 hr/sunfish TLm	
Zinc Oxide		
	Food Chain Concentration Potential	N/D
	WATERFOWL TOXICITY	N/D
	BOD	N/D
	AQUATIC TOXICITY:	N/D
Tin		
	Food Chain Concentration Potential	N/D
	WATERFOWL TOXICITY	N/D
	BOD	N/D
	AQUATIC TOXICITY:	N/D
Antimony		
	Food Chain Concentration Potential	N/D
	WATERFOWL TOXICITY	N/D
	BOD	N/D
	AQUATIC TOXICITY:	N/D

Section 13 -- DISPOSAL CONSIDERATIONS

Waste Classification: Non-regulated solid waste
Disposal Method: Approved landfill
Waste from this product is not considered hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Dispose of in accordance with Federal, State, and Local regulation regarding pollution.

Section 14 -- TRANSPORTATION INFORMATION

DOT:	Non-Regulated
OCEAN (IMDG):	Non-Regulated
AIR (IATA):	Non-Regulated
WHMIS (CANADA):	Non-Regulated

Section 15 -- REGULATORY INFORMATION

REGULATORY DATA

Ingredient Name		
Zinc Chloride		
	SARA 313	Yes

	TSCA Inventory	Yes
	CERCLA RQ	1000 lb.
	RCRA Code	N/A
Ammonium Chloride		
	SARA 313	No
	TSCA Inventory	Yes
	CERCLA RQ	N/A
	RCRA Code	N/A
Zinc Oxide		
	SARA 313	Yes
	TSCA Inventory	Yes
	CERCLA RQ	N/A
	RCRA Code	N/A
Tin		
	SARA 313	No
	TSCA Inventory	Yes
	CERCLA RQ	N/A
	RCRA Code	N/A
Antimony		
	SARA 313	Yes
	TSCA Inventory	Yes
	CERCLA RQ	5,000 lb.
	RCRA Code	N/A

Section 16 -- OTHER INFORMATION

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). The information herein is given in good faith, but no warranty, expressed or implied is made. Consult RectorSeal for further information: (713) 263-8001