

MATERIAL SAFETY DATA SHEET

MSDS 0426

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME	Nokorode Aqua Flux	HMIS CODES	Health 1 Flammability 1 Reactivity 0 PPI B
PRODUCT CODES	74044, 74046, 74047		
CHEMICAL FAMILY:	Organic/Inorganic		
USE	Soldering Flux		
MANUFACTURER'S NAME	The RectorSeal Corporation 2601 Spenwick Drive Houston, Texas 77055 USA	EMERGENCY TELEPHONE NO.	Chemtrec 24 Hours (800) 424-9300
DATE OF PREPARATION	August 7, 2002	TECHNICAL SERVICE TELEPHONE NO.	(800) 231-3345

Section 2 -- COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT	UNITS
10-25	7646-85-7	Zinc Chloride	
		ACGIH TLV	1 mg/m3
		OSHA PEL	1 mg/m3
10-25	12125-02-9	Ammonium Chloride	
		ACGIH TLV	10 mg/m3
		OSHA PEL	10 mg/m3
400 F (204 C) SETA CC		N/D	N/D

EXTINGUISHING 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

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/A
SPECIFIC GRAVITY (H₂O = 1): 0.98
VAPOR PRESSURE (mm Hg): <0.01 @ 68 F (20 C)
MELTING POINT: 120-150 F (52-66 C)
VAPOR DENSITY (AIR = 1): N/A
EVAPORATION RATE (ETHYL ACETATE = 1): N/A
APPEARANCE/ODOR: Tan / Petroleum Odor
SOLUBILITY IN WATER: Insoluble

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 LC50:1960 mg/m³/10M
Ammonium Chloride
Oral-Rat LD50:1650 mg/kg
Inhalation-Rat LC50:N/D
Diethanolamine
Oral-Rat LD50:710 mg/kg
Inhalation-Rat LC50:N/D
Petrolatum
Oral-Rat LD50:N/D
Inhalation-Rat LC50:N/D
Ethanolamine Hydrochloride
Oral-Rat LD50:N/D
Inhalation-Rat LC50:N/D
Poly(ethylene oxide)
Oral-Rat LD50:32 g/kg
Inhalation-Rat LC50:N/D

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	
Diethanolamine	Food Chain Concentration Potential	N/D
	WATERFOWL TOXICITY	N/D
	BOD	10%
	AQUATIC TOXICITY: 2100 ppm/24 hr/sunfish, bluegill/TLM	
Petrolatum	Food Chain Concentration Potential	None
	WATERFOWL TOXICITY	N/D
	BOD	N/D
	AQUATIC TOXICITY:	N/D
Ethanolamine Hydrochloride	Food Chain Concentration Potential	None
	WATERFOWL TOXICITY	N/D
	BOD	N/D
	AQUATIC TOXICITY:	N/D
Poly(ethylene oxide)	Food Chain Concentration Potential	None
	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 lbs.
	RCRA Code	N/A
Ammonium Chloride	SARA 313	No
	TSCA Inventory	Yes
	CERCLA RQ	N/A
	RCRA Code	N/A
Diethanolamine	SARA 313	No
	TSCA Inventory	Yes
	CERCLA RQ	100 lbs.
	RCRA Code	N/A
Petrolatum	SARA 313	No

	TSCA Inventory	Yes
	CERCLA RQ	N/A
	RCRA Code	N/A
Ethanolamine Hydrochloride		
	SARA 313	Yes
	TSCA Inventory	Yes
	CERCLA RQ	N/A
	RCRA Code	N/A
Poly(ethylene oxide)		
	SARA 313	No
	TSCA Inventory	Yes
	CERCLA RQ	N/A
	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