

MATERIAL SAFETY DATA SHEET

MSDS 0426

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

		HMIS CODES	
PRODUCT NAME		Health	:
Nokorode Aqua Flux		Flammability	:
		Reactivity	:
PRODUCT CODES		PPI	1
74044, 74046, 74047			
CHEMICAL FAMILY:			
Organic/Inorganic			
USE			
Soldering Flux			
MANUFACTURER'S NAME		EMERGENCY TELEPHONE NO.	
The RectorSeal Corporation		Chemtrec 24 Hours	
2601 Spenwick Drive		(800) 424-9300	
Houston, Texas 77055 USA			
DATE OF PREPARATION		TECHNICAL SERVICE TELEPHONE NO.	
August 7, 2002		(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
<10	111-42-2	Diethanolamine	
		ACGIH TLV	0.46 mg/m3-skin-
		OSHA PEL	3 mg/m3
70-90	8009-03-8	Pertrolatum	
		ACGIH TLV	N/D
		OSHA PEL	N/D
<10	2002-24-6	Ethanolamine Hydrochloride	
		ACGIH TLV	N/D
		OSHA PEL	N/D
<10	25322-68-3	Poly(ethylene oxide)	
		ACGIH TLV	N/D
		OSHA PEL	N/D

Section 3 -- HAZARDS IDENTIFICATION

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

AIR IRITATION to Non-Regulated system from fumes evolved during soldering.
WHMESC(NANADA): Non-Regulated

~~====Contact may cause intense irritation and injury=====~~

SKIN CONTACT Section 15 -- REGULATORY INFORMATION

~~----May cause skin irritation.-----~~

RENGESTORM DATA

Ingr~~nd~~na, N~~om~~miting, irritation to digestive system.

~~-SUMMARY OF CHRONIC HAZARDS-----~~

Z\$horChterndeffects to liver and kidneys can occur. Chemical irritation
from continued sk\$ARAb\$act can occYes Continuous industrial use in small
unventilated area\$S\$ayInventbrjn suf\$es\$cient inhalation of solder and flux
fumes to cause lung\$R\$C\$A\$B\$ and irritat\$D\$of respiratory tract.

MEDICAL CONDITIONS SCAGRAVATED BY EXPOSURE

And\$midmaChlwithdepre-existing or chronic diseases of the eyes, skin,
respiratory system\$ARAb\$Bovascular \$ystem, gastrointestinal system, liver,
or kidneys may hav\$C\$Anincreas\$orysuscept\$ibility to excessive exposure.

~~=====ECRCLA-RQ=====N/A=====~~

SectionRCA-CodeERST AID MEASURES

~~--Diethanolamine-----~~

If INHALED: SARA \$vercome by e\$posure, remove victim to fresh air
T\$Am\$dv\$ne\$by Give\$oxygen or artificial respiration as
CER\$ed\$Q Obtain \$mergency medical attention. Prompt
RC\$at\$codeis essent\$A.

P\$from\$ASK\$N: Immediately wash with soap and water. Remove and wash
SARA\$y\$contaminated\$Nothing.

If in EYES: T\$E\$A\$sh\$ve\$er\$ywith \$arge amounts of water for 15 minutes.
CER\$E\$A\$M\$Qical atten\$N\$A\$on if irritation persists.

If SWALLOWED: RCRA \$w\$delowed, call\$A\$ physician immediately. Only induce
Ethanolamine Hydro\$oh\$br\$ng\$eat the instruction of a physician. Never give
SARA\$y\$th\$ng by mouth\$eso an unconscious person.

~~=====TSCA-Inventory=====Yes=====~~

SectionECRCLA RQRE FIGHTING MEASURES

~~-----RCRA-Code-----N/A-----~~

FL\$A\$Hy\$E\$N\$ylene oxide) LEL UEL
>400 F (204 C) SARA 313 N/D N/D

EXTINGUSING MEDIATSCA Inventory Yes

Foam, dry chem\$E\$A\$C\$A\$Q\$arbon dioxide\$or water fog.

SPECIAL FIRE FIGHTING PROCEDURES: N\$ear self-contained full face piece
~~=breathing-apparatus-and-other-protective-clothing==~~Hazardous decomposition
products p\$oss\$ib\$le (see-SE\$THE\$N\$IN\$FORM\$ATI\$ONrelease ZnO and HCl fumes.

~~-UNUSUAL-FIRE-AND-EXPLOSION-HAZARDS:--Heat may build up pressure and rupture
cl\$oth\$ed\$cont\$ainers\$ prepared pursuant to the OSHA Hazard Communication~~

~~Standard-(29-CFR-1910-120)-The information herein is given in good faith,
but no warr\$est\$y\$tie\$mp\$esse\$ACCORD\$IMP\$ALE\$RE\$LE\$ASE\$ME\$AS\$URE\$S~~

~~information:--(713)-263-8001-----~~

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Wipe up spills
prevent footing hazard. Avoid flushing into sewers, drains, waterways

OTHER PRECAUTIONS: Avoid prolonged or repeated contact with skin or cloth:
Empty containers may contain residues; treat as if full and observe all
products precautions. Do not reuse empty containers.

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Section 8 -- EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION (SPECIFY TYPE): In confined, poorly ventilated area
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 expose
areas thoroughly before eating, drinking, smoking, or leaving work area.
Launder contaminated clothing before reuse.

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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

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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 n
be evolved during soldering.
HAZARDOUS POLYMERIZATION: Will not occur.

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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

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.

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Section 14 -- TRANSPORTATION INFORMATION

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

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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