



## SAFETY DATA SHEET

# NOKORODE® PRE-TINNING

95/5 pre-tinning paste flux

### SECTION 1 – PRODUCT AND COMPANY INFORMATION

**Product Name**

Nokorode® 95/5 Pre-Tinning Paste Flux

**Product Codes**

14115

**Chemical Family**

Organic/Inorganic

**Use**

Soldering flux

**Manufacturer's Name**

The RectorSeal Corporation  
2601 Spenwick Drive  
Houston, Texas 77055 USA

**Date of Validation**

January 23, 2015

**Date of Preparation**

July 25, 2012

**HMIS Codes**

Health	1
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

## ENVIRONMENTAL HAZARDS

Hazardous to the Aquatic Environment: Not Classified  
Acute aquatic toxicity: Not Classified  
Chronic aquatic toxicity: Not Classified  
Bioaccumulation potential: Not Classified  
Rapid degradability: Not Classified

## GHS Label elements, including precautionary statements



GHS07: Exclamation Mark/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.

## SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

**Ingredient:** Zinc Chloride

Percentage By Weight: 10-25

CAS#: 7646-85-7

EC#: 231-592-0

**Ingredient:** Ammonium Chloride

Percentage By Weight: 10-25

CAS Number: 12125-02-9

EC#: 235-186-4

**Ingredient:** Zinc Oxide

Percentage By Weight: < 10

CAS Number: 1314-13-2

EC#: 215-222-5

**Ingredient:** Tin

Percentage By Weight: —

CAS Number: 7440-31-5

EC#: 231-141-8

**Ingredient:** Antimony

Percentage By Weight: < 1

CAS Number: 7440-31-5

EC#: 231-146-5

## 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: Immediately flush with large amounts of water for at least 15 minutes. Get prompt 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

### 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

Ingredient	Units
<b>Zinc Chloride</b>	
ACGIH TLV:	1 mg/m <sup>3</sup>
OSHA PEL:	1 mg/m <sup>3</sup>

## Ammonium Chloride

ACGIH TLV: 10 mg/m<sup>3</sup>  
 OSHA PEL: 10 mg/m<sup>3</sup>

## Zinc Oxide

ACGIH TLV: 5 mg/m<sup>3</sup>  
 OSHA PEL: 5 mg/m<sup>3</sup>

## Tin

ACGIH TLV: 2 mg/m<sup>3</sup>  
 OSHA PEL: 2 mg/m<sup>3</sup>

## Antimony

ACGIH TLV: 0.5 mg/m<sup>3</sup>  
 OSHA PEL: 0.5 mg/m<sup>3</sup>

**Respiratory Protection (Specify Type):** In confined poorly ventilated areas, use NIOSH/MSHA approved air purifying or supplied 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 (H <sub>2</sub> O = 1):	1.59
Vapor pressure (mmHg):	< 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:	Gray/Petroleum odor
Solubility in water:	Insoluble
Volatile Organic Compounds (VOC) Content (theoretical percentage by weight):	0% or (0 g/L)
Flash point:	> 230°F (110°C) SETA CC
Lower explosion limit:	N/D
Upper explosion limit:	N/D

## 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/m<sup>3</sup>/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/m<sup>3</sup>

##### **Tin**

Oral-Rat LD50: N/D

Inhalation-Rat LC50: N/D

##### **Antimony**

Oral-Rat LD50: 7 g/kg

Inhalation-Rat TCLo: 50 mg/m<sup>3</sup>/7H/52W-I

## SECTION 12 – ECOLOGICAL INFORMATION

### Ecological Data

Ingredient Name:	<b>Zinc Chloride</b>
Food Chain Concentration Potential	None
Waterfowl Toxicity	N/A
BOD	None
Aquatic Toxicity	7.2 ppm/96 hr/medium bluegill/TLm

Ingredient Name: **Ammonium Chloride**  
Food Chain Concentration Potential: None  
Waterfowl Toxicity: N/A  
BOD: N/A  
Aquatic Toxicity: 6 ppm/96 hr/sunfish/TLm

Ingredient Name: **Zinc Oxide**  
Food Chain Concentration Potential: N/D  
Waterfowl Toxicity: N/D  
BOD: N/D  
Aquatic Toxicity: N/D

Ingredient Name: **Tin**  
Food Chain Concentration Potential: N/D  
Waterfowl Toxicity: N/D  
BOD: N/D  
Aquatic Toxicity: N/D

Ingredient Name: **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 No  
 TSCA Inventory Yes  
 CERCLA RQ 1000 lb.  
 RCRA Code N/A

Ingredient Name: **Ammonium Chloride**  
 SARA 313 No  
 TSCA Inventory Yes  
 CERCLA RQ N/A  
 RCRA Code N/A

Ingredient Name: **Zinc Oxide**  
 SARA 313 Yes  
 TSCA Inventory Yes  
 CERCLA RQ N/A  
 RCRA Code N/A

Ingredient Name: **Tin**  
 SARA 313 No  
 TSCA Inventory Yes  
 CERCLA RQ N/A  
 RCRA Code N/A

Ingredient Name: **Antimony**  
 SARA 313 No  
 TSCA Inventory Yes  
 CERCLA RQ 5000 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