

MATERIAL SAFETY DATA SHEET

MSDS 0495

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

| | | | |
|---------------------|---|---------------------------------|-------------------------------------|
| PRODUCT NAME | Nokorode Regular Paste Flux | HMIS CODES | Health 1 |
| | | Flammability | 1 |
| | | Reactivity | 0 |
| PRODUCT CODES | 14000, 14010, 14020, 14030 | PPI | B |
| 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 | July 24, 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 |
| 70-90 | 8009-03-8 | Pertrolatum | |
| | | 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.

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 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.

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Section 5 -- FIRE FIGHTING MEASURES

FLASH POINT LEL UEL
>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.

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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.

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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.

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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.

Laundry contaminated clothing before reuse.

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Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES

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BOILING POINT: N/A
SPECIFIC GRAVITY (H2O = 1): 1.06
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

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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.
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Section 11 -- TOXICOLOGY INFORMATION

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

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Ingredient Name
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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
Petrolatum
    Oral-Rat LD50:N/D
    Inhalation-Rat LC50:N/D
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Section 12 -- Ecological Information

ECOLOGICAL DATA

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Ingredient Name
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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
Petrolatum
    Food Chain Concentration Potential N/D
    WATERFOWL TOXICITY N/D
    BOD N/D
    AQUATIC TOXICITY: N/D
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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 lb. |
| | RCRA Code | N/A |
| Ammonium Chloride | SARA 313 | No |
| | TSCA Inventory | Yes |
| | CERCLA RQ | N/A |
| | RCRA Code | N/A |
| Petrolatum | 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,
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information: (713) 263-8001