

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 |
| PRODUCT CODES | 74044, 74046, 74047, 74060 | PPI | B |
| CHEMICAL FAMILY | Organic/Inorganic | | |
| USE | Soldering Flux | | |
| MANUFACTURER'S NAME | The RectorSeal Corporation | EMERGENCY TELEPHONE NO. | |
| | 2601 Spenwick Drive | Chemtrec 24 Hours | |
| | Houston, Texas 77055 USA | (800)424-9300 USA | |
| | | (703)527-3887 International | |
| DATE OF VALIDATION | August 1, 2012 | TECHNICAL SERVICE TELEPHONE NO. | |
| | | (800)231-3345 or (713)263-8001 | |
| DATE OF PREPARATION | August 1, 2012 | | |

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

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.

Section 3 -- COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT: Ammonium Chloride

PERCENTAGE BY WEIGHT: <10

CAS#: 12125-02-9

EC#: 235-186-4

INGREDIENT: Ethanolamine hydrochloride

PERCENTAGE BY WEIGHT: <10

CAS#: 2002-24-6

EC#: 217-900-6

INGREDIENT: Paraffinic Oil

PERCENTAGE BY WEIGHT: <10

CAS#: 64742-01-4

EC#: 265-101-6

INGREDIENT: Petroleum Derivatives

PERCENTAGE BY WEIGHT: <10

CAS#: 12794-56-8

EC#: 246-771-9

INGREDIENT: Polyethylene-polypropylene glycol

PERCENTAGE BY WEIGHT: <10

CAS#: 9003-11-6
EC#: N/D

INGREDIENT: Glycerine
PERCENTAGE BY WEIGHT: <10
CAS#: 56-81-5
EC#: 200-289-5

INGREDIENT: Polyethylene glycol octylphenyl ether
PERCENTAGE BY WEIGHT: <10
CAS#: 9036-19-5
EC#: N/D
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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

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

INGREDIENT UNITS
Ammonium Chloride

| | |
|-----------|----------|
| ACGIH TLV | 10 mg/m3 |
| OSHA PEL | 10 mg/m3 |

Ethanolamine hydrochloride

| | |
|-----------|-----|
| ACGIH TLV | N/D |
| OSHA PEL | N/D |

Paraffinic Oil

| | |
|-----------|-----|
| ACGIH TLV | N/D |
| OSHA PEL | N/D |

Petroleum Deriviatives

| | |
|-----------|-----|
| ACGIH TLV | N/D |
| OSHA PEL | N/D |

Polyethylene-polypropylene glycol

| | |
|-----------|-----|
| ACGIH TLV | N/D |
| OSHA PEL | N/D |

Glycerine

| | |
|-----------|-----|
| ACGIH TLV | N/D |
| OSHA PEL | N/D |

Polyethylene glycol octylphenyl ether

| | |
|-----------|-----|
| ACGIH TLV | N/D |
| OSHA PEL | N/D |

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.

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 |
| Flash POINT | >400 F (204 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 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

Ammonium Chloride

Oral-Rat LD50:1650 mg/kg

Inhalation-Rat LC50:N/D

Ethanolamine Hydrochloride

Oral-Rat LD50:N/D

Inhalation-Rat LC50:N/D

Paraffinic Oil

Oral-Rat LD50:N/D

Inhalation-Rat LC50:N/D

Petrolatum Derivatives

Oral-Rat LD50:N/D

Inhalation-Rat LC50:N/D

Polyethylene-polypropylene glycol

Oral-Rat LD50:N/D

Inhalation-Rat LC50:N/D

Glycerine

Oral-Rat LD50: 12600 mg/kg

Inhalation-Rat LC50: >570 mg/m3/1H

Polyethylene glycol octylphenyl ether

Oral-Rat LD50:4190 mg/kg

Inhalation-Rat LC50:N/D

Section 12 -- Ecological Information

ECOLOGICAL DATA

Ingredient Name

Ammonium Chloride

Food Chain Concentration Potential

None

WATERFOWL TOXICITY

N/A

BOD

N/A

AQUATIC TOXICITY: 6 ppm/96 hr/sunfish TLm

Ethanolamine Hydrochloride

Food Chain Concentration Potential

N/D

WATERFOWL TOXICITY

N/D

BOD

N/D

AQUATIC TOXICITY:

N/D

Paraffinic Oil

Food Chain Concentration Potential

None

WATERFOWL TOXICITY

N/D

| | | |
|---------------------------------------|------------------------------------|------|
| | BOD | N/D |
| | AQUATIC TOXICITY: | N/D |
| Petrolatum Deriviatives | | |
| | Food Chain Concentration Potential | None |
| | WATERFOWL TOXICITY | N/D |
| | BOD | N/D |
| | AQUATIC TOXICITY: | N/D |
| Polyethylene-polypropylene glycol | | |
| | Food Chain Concentration Potential | None |
| | WATERFOWL TOXICITY | N/D |
| | BOD | N/D |
| | AQUATIC TOXICITY: | N/D |
| Glycerine | | |
| | Food Chain Concentration Potential | None |
| | WATERFOWL TOXICITY | N/D |
| | BOD | N/D |
| | AQUATIC TOXICITY: | N/D |
| Polyethylene glycol octylphenyl ether | | |
| | 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

| | | |
|----------------------------|----------------|-----|
| Ammonium Chloride | | |
| | 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 |
| Paraffinic Oil | | |
| | SARA 313 | No |
| | TSCA Inventory | Yes |
| | CERCLA RQ | N/A |

| | | |
|---------------------------------------|----------------|-----|
| | RCRA Code | N/A |
| Petrolatum Derivatives | | |
| | SARA 313 | No |
| | TSCA Inventory | Yes |
| | CERCLA RQ | N/A |
| | RCRA Code | N/A |
| Polyethylene-polypropylene glycol | | |
| | SARA 313 | No |
| | TSCA Inventory | Yes |
| | CERCLA RQ | N/A |
| | RCRA Code | N/A |
| Glycerine | | |
| | SARA 313 | No |
| | TSCA Inventory | Yes |
| | CERCLA RQ | N/A |
| | RCRA Code | N/A |
| Polyethylene glycol octylphenyl ether | | |
| | SARA 313 | No |
| | TSCA Inventory | Yes |
| | CERCLA RQ | N/A |
| | RCRA Code | N/A |

CALIFORNIA PROPOSITION 65

This product contains a chemical known to the state of California to cause cancer and/or birth defects or reproductive harm.

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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