

MATERIAL SAFETY DATA SHEET

"ESSENTIALLY SIMILAR" TO OSHA FORM 20

P E R N O T D I F U I C C T A T I C
 INGREDIENTS

PRODUCT NAME
RXN-21
CHEMICAL NAME AND MOLECULAR FORMULA
PROPRIETARY FORMULATION
SYNONYMS
NONE

DATE
12/01/06

ADDRESS: Reaction Engineering Inc.
P.O. Box 1452
Dodge City, Ks. 67801-1452

EMERGENCY PHONE NUMBERS

BUSINESS: (620) 225-2180
OTHER: (800) 255-3924

CAS NO. NOT APPLICABLE FOR BLENDS
CHEMICAL FAMILY
WATER TREATING CHEMICALS

| MATERIALS OR COMPONENTS | | | | % W/W | HAZARD DATA |
|---|--|--|--|-------|--|
| SODIUM METABISULFITE (CAS NO. 7681-57-4) | | | | NA | TLV = 5 ppm ACGIH (Irritant Hazard) |
| POTASSIUM HYDROXIDE (CAS NO. 1310-58-3) | | | | NA | TLV = 5 mg/M3 ACGIH (Corrosive, Toxic Hazard) |

| | | | | | |
|----------------------|---|--|--|--|--|
| SHIPPING INFORMATION | CORROSIVE LIQUID, N.O.S. (Contains Potassium Hydroxide) UN-1760, CORROSIVE | | | | |
|----------------------|---|--|--|--|--|

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|--|--|--|--|--|--|--|--|--|
| P H Y S I C A L A I L E S | BOILING POINT/RANGE °C 212 °F | MELTING POINT °C NA °F | FREEZING POINT °C NE °F | MOLECULAR WEIGHT NA | | | | |
| | SPECIFIC GRAVITY (H2O=1) 1.25 @ 20/20 | VAPOR PRESSURE (mm Hg) NE @ | °C °F | VAPOR DENSITY (AIR=1) NE | | | | |
| | SOLUBILITY IN H2O COMPLETE | % VOLATILES BY VOLUME >75 | EVAPORATION RATE <input type="checkbox"/> ETHER=1 <input checked="" type="checkbox"/> WATER=1 <input type="checkbox"/> BUTYLACETATE=1 | NE | | | | |
| | APPEARANCE AND ODOR CLEAR LIQUID, SLIGHT ODOR | | OTHER: | | | | | |
| E X P L O S I O N A N D D A T A | FLASH POINT NONE °C 212 °F | TEST METHOD LOWER NE % UPPER NE | FLAMMABLE LIMITS % UPPER NE | AUTOIGNITION TEMP/FIRE POINT °C NA °F | | | | |
| F I R E R E A C T I V I T Y | EXTINQUISHING MEDIA <input checked="" type="checkbox"/> WATER- SPRAY <input checked="" type="checkbox"/> WATER- FOG <input checked="" type="checkbox"/> WATER- STREAM | CO2 <input checked="" type="checkbox"/> DRY CHEMICAL | <input checked="" type="checkbox"/> ALCOHOL FOAM | <input checked="" type="checkbox"/> FOAM <input checked="" type="checkbox"/> EARTH/ SAND | | | | |
| SPECIAL FIRE FIGHTING PROCEDURES <input type="checkbox"/> DON'T ENTER BUILDING <input type="checkbox"/> ALLOW FIRE TO BURN <input type="checkbox"/> WATER MAY CAUSE FROTHING | | <input type="checkbox"/> DON'T USE WATER | <input checked="" type="checkbox"/> USE SELF CONTAINED BREATHING APPARATUS | | | | | |
| UNUSUAL FIRE AND EXPLOSION HAZARDS <input checked="" type="checkbox"/> DUST EXPLOSION HAZARD <input type="checkbox"/> SENSITIVE TO SHOCK <input type="checkbox"/> CONTAMINATION | | <input type="checkbox"/> TEMPERATURE | OTHER: | NONE | | | | |
| R E A C T I V I T Y | STABILITY <input checked="" type="checkbox"/> STABLE <input type="checkbox"/> UNSTABLE | CONDITIONS CONTRIBUTING TO INSTABILITY <input type="checkbox"/> THERMAL DECOMPOSITION | <input type="checkbox"/> PHOTO DEGRADATION | <input type="checkbox"/> POLYMERIZATION <input type="checkbox"/> CONTAMINATION | | | | |
| C O M P A T I B I L I T Y | INCOMPATIBILITY - AVOID CONTACT WITH <input checked="" type="checkbox"/> STRONG ACIDS <input type="checkbox"/> STRONG ALKALIS <input checked="" type="checkbox"/> STRONG OXIDIZERS | | | | | | | |
| HAZARDOUS DECOMPOSITION PRODUCTS - THERMAL AND OTHER (LIST) SULFER DIOXIDE GAS | | | | | | | | |
| CONDITION TO AVOID <input type="checkbox"/> HEAT <input type="checkbox"/> OPEN FLAMES <input type="checkbox"/> SPARKS <input type="checkbox"/> IGNITION SOURCES | | | | | | | | |
| OTHER: NONE KNOWN | | | | | | | | |
| S P I L L E A K O F F | STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED <input type="checkbox"/> FLUSH WITH WATER <input checked="" type="checkbox"/> ABSORD WITH SAND OR INERT MATERIAL <input type="checkbox"/> NEUTRALIZE | | | | | | | |
| | <input checked="" type="checkbox"/> DISPOSE IMMEDIATELY | | | | | | | |
| | OTHER: Consult federal, state, or local authorities | | | | | | | |
| | In accordance with Federal, State, and Local Regulations. | | | | | | | |
| | CONTINUED ON NEXT PAGE | | | | | | | |

NA - NOT APPLICABLE

NE - NOT ESTABLISHED

ORAL (ACUTE): Irritating to mouth and Gastro-Intestinal System.

DERMAL (ACUTE): Irritating

EYE: Irritating, May Cause Burning

INHALATION: Possible Irritation to Mucous Membranes.

CHRONIC, SUBCHRONIC, ETC.

NOT KNOWN

NOTE:

This product is not considered a Carcinogen by the NTP, IARC, OSHA, or EPA.

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|--|--|---|--|--|--|--------|
| H E A Z A R E D I N F O R M A T T I O N A N C S P E C I A L L O R P R O M A T E C T I O N P P E C A L T I C A L | PERMISSIBLE EXPOSURE LIMIT (SPECIFY IF TLV/TWA OR CEILING[C]) | | | | | |
| | ACGIH 19 | NA | OSHA 19 | NA | OTHER: | |
| | IRRITATION | <input checked="" type="checkbox"/> SKIN <input checked="" type="checkbox"/> EYE | <input type="checkbox"/> SEVERE <input type="checkbox"/> SEVERE | <input checked="" type="checkbox"/> MODERATE <input checked="" type="checkbox"/> MODERATE | <input type="checkbox"/> MILD (TRANSIENT) | |
| | CORROSIVITY | <input type="checkbox"/> SKIN <input checked="" type="checkbox"/> EYE | <input type="checkbox"/> 4 HRS. (DOT) <input type="checkbox"/> MAY CAUSE BLINDNESS | <input type="checkbox"/> 24 HRS. (CPSC) | | |
| | SENSITIZATION | <input type="checkbox"/> SKIN <input type="checkbox"/> RESPIRATORY | <input checked="" type="checkbox"/> ALLERGEN | INHALATION EFFECTS <input type="checkbox"/> NARCOTIC <input type="checkbox"/> CYANOSIS <input type="checkbox"/> ASPHYXANT | | |
| | LUNG EFFECTS (SPECIFY): | NOT KNOWN | | | | |
| | OTHER (SPECIFY): | <input checked="" type="checkbox"/> REPEATED CONTACT SKIN DEFATTER | | | | |
| | INGESTION | <input type="checkbox"/> INDUCE VOMITING | <input checked="" type="checkbox"/> DO NOT INDUCE VOMITING | <input checked="" type="checkbox"/> GIVE PLENTY OF WATER | <input checked="" type="checkbox"/> GET MEDICAL ATTENTION | OTHER: |
| | DERMAL | <input checked="" type="checkbox"/> FLUSH WITH SOAP AND WATER | <input checked="" type="checkbox"/> GET MEDICAL ATTENTION | <input checked="" type="checkbox"/> CONTAMINATED CLOTHING-LAUNDER | <input checked="" type="checkbox"/> CONTAMINATED SHOES-DESTROY | OTHER: |
| | EYE CONTACT | <input checked="" type="checkbox"/> FLUSH WITH PLENTY OF WATER FOR 15 MINUTES | | | | |
| INHALATION | <input checked="" type="checkbox"/> REMOVE TO FRESH AIR | <input checked="" type="checkbox"/> IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION | <input type="checkbox"/> GIVE OXYGEN | <input type="checkbox"/> GET MEDICAL ATTENTION | OTHER: | |
| VENTILATIONS REQUIREMENTS - ALWAYS MAINTAIN EXPOSURE BELOW PERMISSIBLE EXPOSURE LIMITS | | | | | | |
| <input type="checkbox"/> CONSULT AND INDUSTRIAL HYGIENIST | <input checked="" type="checkbox"/> LOCAL EXHAUST | | <input checked="" type="checkbox"/> USE WITH ADEQUATE VENTILATION | <input type="checkbox"/> CHECK FOR CONTAMINANT AND OXYGEN DEFICIENCY | | |
| OTHER: | | | | | | |
| EYE | <input type="checkbox"/> FACE SHIELD AND GOGGLES <input checked="" type="checkbox"/> SAFETY GLASSES | HAND (GLOVE TYPE) | <input checked="" type="checkbox"/> BUTYL RUBBER <input checked="" type="checkbox"/> POLYVINYL CHLORIDE | <input type="checkbox"/> POLYVINYL ALCOHOL <input checked="" type="checkbox"/> NEOPRENE <input checked="" type="checkbox"/> NATURAL RUBBER | OTHER (SPECIFY): <input type="checkbox"/> POLYETHYLENE | |
| RESPIRATOR TYPE - USE ONLY NIOSH APPROVED EQUIPMENT | | | | | | |
| <input type="checkbox"/> SELF-CONTAINED | <input type="checkbox"/> SUPPLIED AIR | <input type="checkbox"/> CAN OR CARTRIDGE GAS OR VAPOR | <input checked="" type="checkbox"/> FILTER-DUST, FUME, MIST | OTHER: | | |
| OTHER PROTECTIVE EQUIPMENT | | | | | | |
| <input checked="" type="checkbox"/> RUBBER BOOTS | <input checked="" type="checkbox"/> APRON | OTHER: SAFETY SHOWER & EYEWASH | | | | |
| PRECAUTIONARY LABELING | | | | | | |
| <input checked="" type="checkbox"/> WASH AFTER HANDLING | <input checked="" type="checkbox"/> DON'T GET IN EYES, SKIN, CLOTHING | <input checked="" type="checkbox"/> DO NOT BREATHE, GAS DUST, VAPOR | <input checked="" type="checkbox"/> KEEP CONTAINER CLOSED | <input checked="" type="checkbox"/> KEEP AWAY FROM HEAT, SPARKS | <input checked="" type="checkbox"/> STORE IN CLOSED CONTAINER | |
| <input type="checkbox"/> DON'T STORE NEAR COMBUSTIBLES | <input checked="" type="checkbox"/> KEEP FROM CONTACT WITH CLOTHING | <input type="checkbox"/> EMPTY CONTAINER MAY CONTAIN HAZARDOUS | <input type="checkbox"/> USE EXPLOSION PROOF EQUIPMENT | OTHER: | | |
| OTHER HANDLING AND STORAGE CONDITIONS: | | | | | | |
| KEEP THIS AND ALL OTHER CHEMICALS OUT OF REACH OF CHILDREN | | | | | | |

THE ABOVE INFORMATION IS ACCURATE TO THE BEST OF OUR KNOWLEDGE. HOWEVER, SINCE DATA, SAFETY STANDARDS, AND GOVERNMENT REGULATIONS ARE SUBJECT TO CHANGE AND THE CONDITIONS OF HANDLING AND USE, OR MISUSE ARE BEYOND OUR CONTROL. WE MAKE NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIM ALL LIABILITY FOR RELIANCE THEREON. USER SHOULD SATISFY HIMSELF THAT HE HAS ALL CURRENT DATA RELEVANT TO HIS PARTICULAR USE.