

| IDENTIFICATION | | MATERIAL SAFETY DATA SHEET | | ADDRESS: Reaction Engineering Inc. P.O. Box 1452 Dodge City, Ks. 67801-1452 | |
|---------------------------------|--|--|--|---|-----------------------|
| | | "ESSENTIALLY SIMILAIR" TO OSHA FORM 20 | | | |
| | | PRODUCT NAME | | DATE | |
| | | RXN-92 | | 01/01/07 | |
| | | CHEMICAL NAME AND MOLECULAR FORMULA | | | |
| | | Proprietary Formulation | | EMERGENCY PHONE NUMBERS | |
| | | SYNONYMS | | BUSINESS: (620) 225-2180 | |
| | | NONE | | OTHER: (800) 255-3924 | |
| | | | | CAS NO. See Below | |
| | | | | CHEMICAL FAMILY | |
| | | | | Quaternary Detergent | |
| HAZARD IDENTIFICATION | MATERIALS OR COMPONENTS | | % W/W | HAZARD DATA | |
| | n-Alkyl Dimethyl Benzyl Ammonium Chloride | | 12.5 | NA | |
| | CAS No. 139-08-2 | | | | |
| | Bis (Tri-n-butyltin) Oxide | | 2.25 | NA | |
| | CAS No. 56-35-9 | | | | |
| | Ethanol | | 37266 | 1000 ppm | |
| | CAS No. 64-17-5 | | | | |
| SHIPPING INFORMATION | | Water Treating Compound, Liquid, Non-Hazardous | | | |
| PHYSICAL PROPERTIES | BOILING POINT/RANGE | | MELTING POINT | | FREEZING POINT |
| | °C 212 °F | | °C NA °F | | °C <32 °F |
| | SPECIFIC GRAVITY (H2O=1) | | VAPOR PRESSURE (mm Hg) | | MOLECULAR WEIGHT |
| | .98 - 1.00 @ 20/20 °C | | 17.5mmHg @ 25 °C | | NE |
| | SOLUBILITY IN H2O | | % VOLATILES BY VOLUME | | VAPOR DENSITY (AIR=1) |
| | COMPLETE | 80 - 90 | | <1 | |
| | APPEARANCE AND ODOR | | EVAPORATION RATE | | |
| | Clear to amber liquid | OTHER: | | 1 | |
| EXPLOSION AND FLAMMABILITY DATA | FLASH POINT | | TEST METHOD | | FLAMMABLE LIMITS |
| | °C °F 145 | | | | LOWER NE % UPPER NE |
| | EXTINGUISHING MEDIA | | AUTOIGNITION TEMP/FIRE POINT | | |
| | <input checked="" type="checkbox"/> WATER-SPRAY <input checked="" type="checkbox"/> WATER-FOG <input checked="" type="checkbox"/> WATER-STREAM <input checked="" type="checkbox"/> CO2 <input checked="" type="checkbox"/> DRY-CHEMICAL <input type="checkbox"/> ALCOHOL-FOAM <input checked="" type="checkbox"/> FOAM <input type="checkbox"/> EARTH/SAND | | °C NE °F | | |
| | 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 Known | | | | |
| REACTIVITY | STABILITY | | CONDITIONS CONTRIBUTING TO INSTABILITY | | |
| | <input checked="" type="checkbox"/> STABLE <input type="checkbox"/> UNSTABLE | | <input type="checkbox"/> THERMAL DECOMPOSITION <input type="checkbox"/> PHOTO DEGRADATION <input type="checkbox"/> POLYMERIZATION <input type="checkbox"/> CONTAMINATION | | |
| | INCOMPATIBILITY - AVOID CONTACT WITH | | | | |
| | <input type="checkbox"/> STRONG ACIDS <input type="checkbox"/> STRONG ALKALIS <input checked="" type="checkbox"/> STRONG OXIDIZERS OTHER: | | | | |
| | HAZARDOUS DECOMPOSITION PRODUCTS - THERMAL AND OTHER (LIST) | | | | |
| | BURNING CAN PRODUCE CARBON MONOXIDE AND/OR CARBON DIOXIDE, & AMMONIA | | | | |
| | CONDITION TO AVOID | | | | |
| | <input type="checkbox"/> HEAT <input type="checkbox"/> OPEN FLAMES <input type="checkbox"/> SPARKS <input type="checkbox"/> IGNITION SOURCES OTHER: None Known | | | | |
| SPILL/LEAK RESPONSE | STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED | | | | |
| | <input type="checkbox"/> FLUSH WITH WATER <input checked="" type="checkbox"/> ABSORB WITH SAND OR INERT MATERIAL <input type="checkbox"/> NEUTRALIZE <input checked="" type="checkbox"/> SWEEP/SCOOP UP AND REMOVE <input checked="" type="checkbox"/> KEEP UPWIND <input checked="" type="checkbox"/> PREVENT SPILL | | | | |
| | <input checked="" type="checkbox"/> DISPOSE IMMEDIATELY OTHER: LARGE SPILLS SHOULD BE COLLECTED FOR DISPOSAL | | | | |
| WASTE DISPOSAL METHOD: | | In accordance with Federal, State, & Local regulations | | | |
| | | CONTINUED ON NEXT PAGE | | | |

NA - NOT APPLICABLE

NE - NOT ESTABLISHED

| | | |
|--|---|--|
| T O X I C I T Y | ORAL (ACUTE): May be harmful. Oral LD50= 1.63 mL/kg DERMAL (ACUTE): May cause damage. Dermal LD50= 7 mL/kg EYE: May cause damage. INHALATION: No adverse reaction expected | |
| | CHRONIC, SUBCHRONIC, ETC. Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression, and convulsion may be needed. Note: This product is not considered to be a carcinogen by NPT, IARC, OSHA, or EPA. | |
| E F F E C T S O F H E A L T H E X P O S U R E I N F O R M A T I O N | PERMISSIBLE EXPOSURE LIMIT (SPECIFY IF TLVA/TWA OR CEILING[C]) ACGIH 19__ NA OSHA 19__ NA OTHER: None | |
| | IRRITATION <input checked="" type="checkbox"/> SKIN <input type="checkbox"/> SEVERE <input checked="" type="checkbox"/> MODERATE <input checked="" type="checkbox"/> EYE <input type="checkbox"/> SEVERE <input checked="" type="checkbox"/> MODERATE <input type="checkbox"/> MILD (TRANSIENT) | |
| | CORROSIVITY <input type="checkbox"/> SKIN <input type="checkbox"/> 4 HRS. (DOT) <input type="checkbox"/> 24 HRS. (CPSC) <input type="checkbox"/> EYE <input type="checkbox"/> MAY CAUSE BLINDNESS | |
| | SENSITIZATION <input type="checkbox"/> SKIN <input type="checkbox"/> RESPIRATORY <input type="checkbox"/> ALLERGEN INHALATION EFFECTS <input type="checkbox"/> NARCOTIC <input type="checkbox"/> CYANOSIS <input type="checkbox"/> ASPHYXANT | |
| | LUNG EFFECTS (SPECIFY): Not Known | |
| | OTHER (SPECIFY): Not Known <input 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 type="checkbox"/> CONTAMINATED SHOES-DESTROY OTHER: | |
| | EYE CONTACT <input checked="" type="checkbox"/> FLUSH WITH PLENTY OF WATER FOR 15 MINUTES <input checked="" type="checkbox"/> GET MEDICAL ATTENTION OTHER: | |
| | INHALATION <input checked="" type="checkbox"/> REMOVE TO FRESH AIR <input checked="" type="checkbox"/> IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION <input checked="" type="checkbox"/> GIVE OXYGEN <input checked="" type="checkbox"/> GET MEDICAL ATTENTION OTHER: | |
| S P E C I A L P R O T E C T I O N | 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 checked="" type="checkbox"/> FACE SHIELD AND GOGGLES <input type="checkbox"/> SAFETY GLASSES <input checked="" type="checkbox"/> GOGGLES HAND (GLOVE TYPE) <input checked="" type="checkbox"/> BUTYL RUBBER <input type="checkbox"/> POLYVINYL ALCOHOL <input type="checkbox"/> POLYVINYL CHLORIDE <input type="checkbox"/> NEOPRENE <input checked="" type="checkbox"/> NATURAL RUBBER OTHER (SPECIFY): NITRILE RUBBER 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 type="checkbox"/> FILTER-DUST, FUME, MIST OTHER: Not normally required | |
| | OTHER PROTECTIVE EQUIPMENT <input type="checkbox"/> RUBBER BOOTS <input checked="" type="checkbox"/> APRON OTHER: EYE BATH, SAFETY SHOWER | |
| | 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 checked="" 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: | |
| P R E C A U T I O N | OTHER HANDLING AND STORAGE CONDITIONS: | |
| | 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. | |