

MATERIAL SAFETY DATA SHEET

"ESSENTIALLY SIMILAR" TO OSHA FORM 20

ADDRESS:
REACTION ENGINEERING
PO Box 1452
Dodge City, KS 68701

Emergency Phone Number(s)
Business: 316-225-2154
Other: 800-424-9300 Chemtrec

CAS No.(s)
Not applicable for blends

Chemical Family
Water Treating Chemicals

PROD. IDENTIFICATION	Product Name RXN-59	Code No. -
	Chemical Name and Molecular Formula PROPRIETARY FORMULATION	
	Synonyms NONE	
	Date JUL 1989	

	MATERIALS OR COMPONENTS	% w/w	HAZARD DATA (TLV, LD50, LC50, etc.)
HAZARDOUS INGREDIENTS	CYCLOHEXYLAMINE	> 5	OSHA PEL NONE ACGIH TLV 10 ppm
	MORPHOLINE	> 5	OSHA PEL 20 ppm ACGIH TLV 20 ppm
	DIETHYLAMINOETHANOL	> 5	LD50 1300 mg/kg (rat)

SHIPPING INFORMATION	WATER TREATING COMPOUND, LIQUID CORROSIVE LIQUID NA-1760 CORROSIVE LABEL REQUIRED
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PHYSICAL PROPERTIES	Boiling Point/Range °C 212 °F	Melting Point °C N/A °F	Freezing Point °C N/A °F	Molecular Weight (Calculated) N/E	
	Specific Gravity (H ₂ O=1) .891 @ 20/20 °C		Vapor Pressure (mm Hg) N/A @ °C		
	Solubility in H ₂ O 100%		% Volatiles by Volume 100		
	Appearance and Odor Clear liquid; Pungent ammonia odor		Evaporation Rate > 1 <input type="checkbox"/> Ether = 1 <input checked="" type="checkbox"/> Water = 1 <input type="checkbox"/> Butylacetate = 1		

FIRE AND EXPLOSION DATA	Flash Point °C N/E °F	Test Method	Flammable Limits Lower N/E % Upper N/E %	Autoignition Temperature/Fire Point °C °F
	EXTINGUISHING MEDIA <input checked="" type="checkbox"/> Water-spray <input checked="" type="checkbox"/> Water-fog <input checked="" type="checkbox"/> Water stream <input checked="" type="checkbox"/> CO ₂ <input checked="" type="checkbox"/> Dry chemical <input type="checkbox"/> Alcohol foam <input type="checkbox"/> Foam <input type="checkbox"/> Earth or sand			
	SPECIAL FIRE FIGHTING PROCEDURES <input type="checkbox"/> Do not enter building <input type="checkbox"/> Allow fire to burn <input type="checkbox"/> Water may cause frothing <input type="checkbox"/> Do not use water <input checked="" type="checkbox"/> Use self-contained breathing apparatus			
	UNUSUAL FIRE AND EXPLOSION HAZARDS <input type="checkbox"/> Dust explosion hazard <input type="checkbox"/> Sensitive to shock <input type="checkbox"/> Contamination <input type="checkbox"/> Temperature <input type="checkbox"/> Other (specify):			

REACTIVITY DATA	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 checked="" type="checkbox"/> Contamination
	INCOMPATIBILITY - Avoid contact with <input checked="" type="checkbox"/> Strong acids <input type="checkbox"/> Strong alkalis <input checked="" type="checkbox"/> Strong oxidizers <input type="checkbox"/> Other (specify):	
	HAZARDOUS DECOMPOSITION PRODUCTS - THERMAL AND OTHER (list) May liberate CO ₂ , CO ₃ , and Oxides of Nitrogen.	
	CONDITIONS TO AVOID <input checked="" type="checkbox"/> Heat <input checked="" type="checkbox"/> Open flames <input checked="" type="checkbox"/> Sparks <input type="checkbox"/> Ignition sources <input type="checkbox"/> Other (specify):	

SPILL, LEAK	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 type="checkbox"/> Sweep or scoop up and remove <input checked="" type="checkbox"/> Keep upwind. Evacuate enclosed spaces. <input checked="" type="checkbox"/> Prevent spread of spill <input checked="" type="checkbox"/> Dispose of immediately <input type="checkbox"/> Other (specify):
	WASTE DISPOSAL METHOD - Consult federal, state, or local authorities for proper disposal procedures. In accordance with Federal, State and Local regulations.
	CONTINUED ON REVERSE SIDE

TOXICITY	Oral (acute)		Severe irritant - possibly corrosive.	
	Dermal (acute)		Severe irritant.	
	Eye	Severe irritant. May cause blindness.		
	Inhalation (acute)		Irritation, nausea, vomiting.	
Chronic, Subchronic, etc.				
HEALTH HAZARD INFORMATION	PERMISSIBLE EXPOSURE LIMIT (Specify if TLV/TWA or Ceiling (c))			
	ACGIH 19__		OSHA 19__	
	Other:			
	IRRITATION	<input checked="" type="checkbox"/> Skin	<input checked="" type="checkbox"/> Severe	<input type="checkbox"/> Moderate
		<input checked="" type="checkbox"/> Eye	<input checked="" type="checkbox"/> Severe	<input type="checkbox"/> Moderate <input type="checkbox"/> Mild (transient)
	CORROSIVITY	<input checked="" type="checkbox"/> Skin	<input type="checkbox"/> 4 hrs. (DOT)	<input type="checkbox"/> 24 hrs. (CPSC)
		<input checked="" type="checkbox"/> Eye	<input checked="" type="checkbox"/> May cause blindness	
	SENSITIZATION	<input type="checkbox"/> Skin	<input checked="" type="checkbox"/> Respiratory	<input type="checkbox"/> Allergen
	INHALATION EFFECTS		<input type="checkbox"/> Narcotic effect	<input type="checkbox"/> Cyanosis <input type="checkbox"/> Asphyxiant
	LUNG EFFECTS (Specify):			
May increase susceptibility to respiratory illness.				
OTHER (Specify):				
<input type="checkbox"/> Repeated contact - skin defatter <input type="checkbox"/> Other (Specify):				
Emergency First Aid	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 <input type="checkbox"/> Other (specify):
	DERMAL			
	<input checked="" type="checkbox"/> Flush with soap and water	<input checked="" type="checkbox"/> Get medical attention	<input checked="" type="checkbox"/> Contaminated clothing - remove & launder	<input checked="" type="checkbox"/> Contaminated shoes - destroy <input type="checkbox"/> Other (specify):
	EYE CONTACT			
	<input checked="" type="checkbox"/> Flush with plenty of water for at least 15 minutes	<input checked="" type="checkbox"/> Get medical attention	<input type="checkbox"/> Other (specify):	
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 <input type="checkbox"/> Other (specify):	
SPECIAL PROTECTION INFORMATION	VENTILATION REQUIREMENTS - Always maintain exposure below permissible exposure limits			
	<input type="checkbox"/> Consult an industrial hygienist or environmental health specialist	<input type="checkbox"/> Local exhaust	<input checked="" type="checkbox"/> Use with adequate ventilation	<input type="checkbox"/> Check for air contaminant and oxygen deficiency
	<input type="checkbox"/> Other (specify):			
	EYE	<input checked="" type="checkbox"/> Face shield and goggles	HAND (GLOVE TYPE)	
	<input checked="" type="checkbox"/> Safety glasses	<input type="checkbox"/> Goggles	<input checked="" type="checkbox"/> Butyl rubber <input type="checkbox"/> Polyvinyl alcohol <input type="checkbox"/> Other (specify):	
			<input checked="" type="checkbox"/> Polyvinyl chloride <input checked="" type="checkbox"/> Neoprene <input checked="" type="checkbox"/> Natural rubber <input type="checkbox"/> Polyethylene	
	RESPIRATOR TYPE - Use only NIOSH approved equipment			
<input checked="" 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 <input type="checkbox"/> Other (specify):	
OTHER PROTECTIVE EQUIPMENT				
<input checked="" type="checkbox"/> Rubber boots	<input checked="" type="checkbox"/> Apron	<input type="checkbox"/> Other (specify):		
SPECIAL PRECAUTIONS	PRECAUTIONARY LABELING			
	<input checked="" type="checkbox"/> Wash thoroughly after handling	<input checked="" type="checkbox"/> Do not get in eyes, on skin or clothing	<input checked="" type="checkbox"/> Do not breathe dust, vapor, mist, gas	<input checked="" type="checkbox"/> Keep container closed <input checked="" type="checkbox"/> Keep away from heat, sparks, and open flames <input checked="" type="checkbox"/> Store in tightly closed containers
	<input checked="" type="checkbox"/> Do not store near combustibles	<input checked="" type="checkbox"/> Keep from contact with clothing and other combustible materials	<input checked="" type="checkbox"/> Empty container may contain hazardous residues	<input checked="" type="checkbox"/> Use explosion proof equipment <input type="checkbox"/> Other (specify):
	Other handling and storage conditions			



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