MATERIAL SAFETY DATA SHEET

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PRODUCT IDENTIFICATION

Product Name: **4262** Liquid Urea Formaldehyde Resin
Chemical Name: Ammonia-Urea-Formaldehyde Polymer
CAS Number: 27967-29-9 PIN: Not TDG Regulated
NFPA Classification: Health: 1; Flammability: 1; Reactivity: 0

HAZARDOUS COMPONENTS

Formaldehyde, CAS No. 50-00-0, 0.1 – 0.5% by weight as free formaldehyde.
Exposure Limits: OSHA; 0.75 ppm 8 hour TWA, 2.0 ppm STEL. ACGIH; 0.3 ppm Ceiling.
Toxicity: Skn-rbt LD_{50} 270 mg/kg; oral-rat LD_{50} 100 mg/kg; inh-rat LC_{50} 200 mg/m^3/4h
Warning: Formaldehyde is classified as an IARC Group I Human carcinogen (nose and pharynx) and a potential human carcinogen by NTP and OSHA. It is irritating and potentially harmful to the eyes, skin, and respiratory system and may cause skin allergies to sensitive individuals.

EMERGENCY OVERVIEW

Water clear to white opaque liquid, with pungent formaldehyde odor. May cause eye, skin, nasal or respiratory passage irritation. Avoid contact with strong acids or elevated temperature in uncontrolled conditions. May emit hydrogen cyanide when burned. Formaldehyde is classified as an IARC Group I human carcinogen (nose and pharynx) and a potential human carcinogen by NTP and OSHA.

HAZARDS IDENTIFICATION

Exposure Effects
Eyes: may cause burns, reddening and weeping
Inhalation: may cause coughing and burning sensation, may result in bronchitis, laryngitis and pulmonary edema.
Ingestion: may cause burning sensation to mucous membrane, nausea, dizziness and convulsions.
Skin: may cause redness, dryness, cracking and, in sensitive people, dermatitis.

FIRST AID

Treat as an emergency - never give anything to an unconscious person.
Eyes: irrigate with a gentle stream of water, for at least fifteen minutes. Secure medical attention.
Inhalation: remove patient to fresh air, keep warm and quiet, use oxygen if indicated. Secure medical attention.
Ingestion: do **NOT** induce vomiting. Wash mouth. If conscious administer 8 oz (240 ml) of milk or water. Secure medical attention immediately. If vomiting occurs, administer fluids above again. Contact physician and poison control center. If unconscious or in convulsions, secure transportation to a hospital immediately.
Skin: remove contaminated clothing, flush contaminated skin with water and wash with mild soap and warm water.

FIRE FIGHTING

Fire Fighting Procedure: use water spray, dry chemical, foam, or CO_2. Use water spray to cool containers. Keep product out of sewers and public waters.
Special equipment required: wear full protective clothing and NIOSH or National Standard CAN/CSA 94.4 - 93 approved self-contained breathing apparatus.
Hazardous combustion products: may be hydrogen cyanide, carbon monoxide, carbon dioxide, formaldehyde, nitrogen oxides, sodium oxide and sodium carbonate particulates.

ACCIDENTAL RELEASE PROCEDURES
Large spills or leaks should be confined by diking so as to prevent entry into natural waters. Minimal quantities of water should be used to wash spilled materials to waste storage or sumps. May precipitate when rinsed with water. Recycle waste material using proper adjustment in product use. Small leaks or spills may be recovered with sorbent material. Dispose of sorbents in compliance with all Federal, State and local regulations. This material is NOT a RCRA hazardous waste if spilled.

HANDLING AND STORAGE
Store in cool place. Rotate stock to use oldest first. Do not store near strong acids.

EXPOSURE CONTROLS AND PERSONAL PROTECTION
Respiratory protection: exposure should be minimized by engineering or administrative controls so as to prevent overexposure. In the absence of suitable controls and/or if overexposure may occur, wear a NIOSH or National Standard CAN/CSA 94.4 - 93 approved respirator suitable for formaldehyde.
Eyes: chemical safety goggles are recommended.
Skin: avoid repeated or prolonged skin contact. Wash hands and face with soap and water prior to eating or drinking.

PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear or opaque	Odor: faint Formaldehyde	Physical State: Liquid
pH: 6.0 – 9.0	Vapor Pressure: Not applicable	Vapor Density: Not available
Boiling Point: 212ºF (100º)	Freezing Point: Not applicable	Specific Gravity: 1.1 – 1.3
Odor Threshold: Not available	Volatile Wt. 30 – 50%	
Evaporation Rate: Not applicable	Coefficient of oil/water distr.: Not applicable	Flash Point**:** >200ºF

STABILITY AND REACTIVITY
Exposure to elevated temperatures or strong acids will cause rapid, but non-explosive, polymerization with evolution of formaldehyde and water.

TRANSPORTATION INFORMATION

Canada	USA
Not TDG Regulated	<20,000 lbs.: Not DOT Regulated
	≥ 20,000 lbs.: RQ, Other regulated Substance, Liquid, N.O.S., Class 9, NA 3082, P.G. III (formaldehyde)

REGULATORY INFORMATION
SARA Title III
Section 304 emergency notification substances contained: none.
Section 311/312 hazard categories: acute hazard.
Section 313 emissions reporting: this product contains no listed substances.

Canadian WHMIS Classification: D2A, D2B
Prepared by Arclin, HSE Group, Telephone: 905-712-0900