

MATERIAL SAFETY DATA SHEET

KEMIN INDUSTRIES, INC.

2100 Maury St.
Des Moines, IA 50317
515/559-5100

Emergency Phone Number:
800/424-9300 CHEMTREC
Date prepared: September 7, 2006
Supersedes: June 30, 2006

SECTION I - PRODUCT IDENTIFICATION

Product Name: Sal CURB® ASF Liquid
Chemical Abstract Service (CAS) Number: Not assigned—product is mixture
Chemical Family: Formaldehyde-containing mixture

SECTION II - HAZARDOUS COMPONENTS

Component (CAS #)	Weight %	ACGIH TLV	OSHA PEL
Formaldehyde (50-00-0)	30.0	0.3 ppm (CEILING)	0.5 ppm (8 hr. TWA Action Level) 0.75 ppm (8 hr. TWA) 2.0 ppm (15 min. STEL) 20 ppm (IDLH - NIOSH)
Propionic Acid (79-09-4)	10.0	10 ppm (8 hr. TWA)	NE
Methanol (67-56-1)	Proprietary (On file with Kemin AgriFoods North America Regulatory Affairs)	200 ppm (8 hr. TWA) 250 ppm (15 min. STEL)	NE

ACRONYMNS/DEFINITIONS:

ACGIH = American Conference of Governmental Industrial Hygienists
TLV = Threshold Limit Value (8-hour, time-weighted average exposure that is reasonably expected to protect majority of workers)
OSHA = Occupational Safety and Health Administration
PEL = Permissible Exposure Limit (8-hour, time-weighted average exposure that is legally enforceable)
TWA = Time-Weighted Average
STEL = Short-Term Exposure Limit for 15-minute sampling period
IDLH = Immediately Dangerous To Life and Health
NIOSH = National Institute of Occupational Safety and Health
ppm = parts per million (parts of chemical per million parts of air; measure of airborne concentration)
NE = Not Established

SECTION III - PHYSICAL PROPERTIES

Appearance and Odor:	Clear liquid with a strong, pungent formaldehyde odor
Molecular Weight:	NE
Specific Gravity (Water = 1):	1.07 - 1.10
pH:	Approx. 3.5 - 4.5
Refractive Index:	1.37 - 1.39
Solubility in Water:	Miscible
Boiling Point:	NE
Melting Point:	NE

SECTION IV - FIRE AND EXPLOSION DATA

Flash Point:	142.7° F
Flammable Limits in air (% by Volume):	Lower Explosive Limit (LEL): NE Upper Explosive Limit (UEL): NE
Unusual Fire and Explosion Hazards:	Extreme temperatures such as those experienced during a fire will cause the generation of irritating gaseous formaldehyde and other potentially hazardous by-products of combustion.
Fire Extinguishing Media:	Only use fire-extinguisher for incipient (small) fires; appropriate media include dry chemical, alcohol foam, carbon dioxide; water spray can be used to extinguish fires and cool fire-exposed containers; water spray may also be used to absorb gaseous formaldehyde and reduce irritating fumes; for large fires, utilize local fire department personnel.
Special Fire Fighting Procedures and Equipment:	If trained as part of an in-house emergency response team, use National Institute of Occupational Safety and Health (NIOSH) -approved, self-contained breathing apparatus (SCBA) and wear full protective clothing for skin. Use water spray to keep fire-exposed storage containers cool.
Hazardous Combustion Products:	Under fire conditions, carbon dioxide, carbon monoxide, hydrogen, hydrogen cyanide may be generated along with other gaseous components associated with combustion of surrounding materials.

SECTION V - REACTIVITY DATA

Chemical Stability:	Stable under ordinary conditions of storage and use.
Incompatibility (Materials to Avoid):	Caustic soda, soda ash, and other alkalis; sodium, potassium, and other alkali metals; amines; acids; oxygen; hydrogen peroxide, and other strong oxidizing agents; urea; phenols; interaction with chemically-incompatible materials may cause exothermic reactions resulting in production of heat or increased pressure that may result in hazardous conditions.
Hazardous Decomposition Products:	Product will not decompose under conditions of normal storage and use.
Hazardous Polymerization:	Will not occur.

SECTION VI - HEALTH HAZARD INFORMATION

[NOTE: Given anticipated usage of product, the utilization of engineered application systems and the use of recommended personal protective equipment (PPE), significant acute exposures and associated health effects are not anticipated; chronic exposures are also not anticipated.]

A. ACUTE (IMMEDIATE, SHORT-TERM) EXPOSURES FROM ROUTINE USE

Inhalation: Exposures of sufficient duration and concentration may cause adverse health effects by inhalation. Breathing of gas, vapor or mist can cause severe respiratory irritation to the nose, throat and lungs. Symptoms may include a burning sensation, coughing, shortness of breath, nausea, headaches or dizziness.

Skin Contact: Formaldehyde is a severe skin irritant. Sensitization occurs upon repeated contact leading to increasingly significant dermal symptoms.

Eye Contact: Vapors cause irritation to the eyes with redness, pain, and blurred vision.

Ingestion: Accidental ingestion may cause severe abdominal pain, vomiting, headache.

B. CHRONIC (REPEATED, LONG-TERM) EXPOSURES FROM ROUTINE USE

Inhalation: Severe over-exposure may produce lung damage, choking, unconsciousness, or death. Chronic exposures may lead to certain types of cancer including nasal cancer (see Section VII – Toxicity Data for cancer designations)

Skin Contact: Prolonged contact causes white discoloration, smarting, cracking, and scaling.

Eye Contact: Higher concentrations of liquid, extended eye contact or splashes may cause irreversible eye damage.

Ingestion: Ingestion of large volumes not expected but may cause loss of consciousness or death.

C. EMERGENCY AND FIRST- AID PROCEDURES

Inhalation: Remove person to fresh air immediately. Activate any available ventilation systems to facilitate the exhausting of work area. If symptoms are significant, immediately activate local Emergency Medical System (EMS). Under extreme circumstances, Cardio-Pulmonary Resuscitation (CPR) may be indicated. If available and advised by a medical professional, give oxygen.

Skin Contact: Eye wash/drench showers are required by the Formaldehyde Standard (29 CFR 1910.1048). Immediately flush skin with large quantities of water for at least 15 minutes or until medical personnel arrive. Immediately remove contaminated clothing and shoes. Launder contaminated clothing before reuse. If irritation occurs, seek immediate medical attention.

Eye Contact: Eye wash/drench showers are required by the Formaldehyde Standard (29 CFR 1910.1048). Immediately wash eyes with plenty of water for at least 15 minutes using eyewash facilities. Remove contact lenses. If irritation persists, call a physician immediately.

Ingestion: After accidental exposure, call local poison control center/emergency room or activate local Emergency Medical System (EMS). Never induce vomiting if emergency medical personnel are within 15 minutes travel time to site. Do not give anything by mouth to an unconscious person.

SECTION VII - TOXICITY DATA

Eye: Formaldehyde: 50 ug (24 hours); severe irritation
Methanol: 40 mg; moderate irritation

Dermal: Formaldehyde: Dermal LD₅₀ = 270 mg/kg (Rabbit)
Methanol: Dermal LD₅₀ = 15,800 mg/kg (Rabbit)
Propionic Acid: Dermal LD₅₀ = 500 mg/kg (Rabbit)

Inhalation: Formaldehyde: Vapor LC₅₀ = 203 mg/m³ (Rat); LC_{Lo} = 400 mg/m³, 2 hours (Cat)
Methanol: Vapor LC₅₀ = 64,000 ppm, 4 hours (Rat)
Propionic Acid: LC₅₀ = >4.9 mg/l, 4 hours (Rat)

Oral: Formaldehyde: LD₅₀ = 100 mg/kg (Rat); LD_{Lo} = 70 mg/m³ (human)
Methanol: LD₅₀ = 5628 mg/kg (Rat); LD_{Lo} = 143 mg/m³ (human)
Propionic Acid: LD₅₀ = 3,500-4,200 mg/kg (Rat)

Carcinogenicity: Formaldehyde designations:
ACGIH: suspected human carcinogen
IARC: Category 1 – Carcinogenic to Humans (June, 2004)
NTP: Reasonably anticipated to be a human carcinogen
OSHA: human carcinogen

ACRONYMS / DEFINITIONS:

LD50 = Lethal Dose 50 % - the amount of material ingested that kills 50% of test animals

mg/kg = milligrams of chemical per kilogram of body weight

LC50 = Lethal Concentration 50% - the amount of a gas that when inhaled kills 50% of test animals

ACGIH = American Conference of Governmental Industrial Hygienists

OSHA = Occupational Safety and Health Administration

IARC = International Agency for Research on Cancer

NTP = National Toxicology Program

Carcinogen = can cause cancer

SECTION VIII - SPECIAL PROTECTION INFORMATION

Personal Protective Equipment:

Protective Gloves: Neoprene or nitrile

Eye Protection: At a minimum, chemical splash/vapor protective goggles are recommended whenever there is any potential for splashes; for activities that involve large quantities of material or high splash potential, supplement with a full face shield

Respiratory Protection: Engineering controls such as dilution and localized ventilation should be used to reduce ambient concentrations of product whenever feasible. If respiratory protection is utilized, all respirator users must be medically qualified and undergo fit-testing and training per OSHA's – Respiratory Protection Standard (29 CFR 1910.134). Specific respiratory protection needs should be evaluated by a safety professional and may involve exposure monitoring by an industrial hygienist. All respiratory protection equipment shall be approved by NIOSH and be equipped with NIOSH/MSHA-approved formaldehyde cartridges. The need for air-supplied or air-filtered respirators will be based on an exposure assessment that will assure adequate protection for the ambient concentrations measured or anticipated in the work environment.

Other Protective Equipment: Full protective suit, chemical apron, and rubber boots as required to prevent skin contact. Safety shower and eye bath must be readily available.

Ventilation: Use local exhaust ventilation as required to maintain employee exposure below threshold limits.

SECTION IX - SPILL, LEAK AND DISPOSAL PROCEDURES

Steps to be Taken in Case Material is Released or Spilled: Turn off all sources of heat or ignition. Facilitate movement of air by opening doors/windows, activating ventilation systems or fans. Remove all workers from spill area. Clean-up personnel require protective clothing and respiratory protection from vapors. Only specially trained or qualified personnel should handle the emergency. Use foam to control vapors. Confine spilled material and absorb on sand, sawdust or other inert material. NOTE: Product (e.g. fish meal being treated also makes a good adsorbent). Water runoff can cause environmental damage. Retain all contaminated water for removal and treatment. Do not flush to sewer.

Disposal: Dispose as a hazardous waste in a RCRA approved facility. Dispose of water in a contained waste treatment system. Do not flush to sewer or surface waters. Ensure compliance with all federal, state, and local regulations. For specific instructions on local waste handling procedures, contact nearest Environmental Protection Agency (EPA) branch office.

SECTION X - REGULATORY INFORMATION

DOT Regulated

Proper shipping name: Corrosive Liquid, acidic, organic, N.O.S. (Formaldehyde Solution, Propionic acid)
Hazard class: 8 (Corrosive)
Label required: Corrosive
Identification number: UN 3265
RQ (formaldehyde) 100 lbs

Superfund Amendments and Reauthorization Act (SARA) and CERCLA (Comprehensive Environmental Response and Liability Act)

Releases to air, land or water may trigger the emergency release reporting requirements under SARA Section 302 (40 CFR Part 355) Formaldehyde RQ = 100 lbs., TPQ = 500 lbs.

CERCLA Section 103 (40 CFR Part 302.4) RQ = 100 lbs.

State or local reporting requirements may differ from federal requirements.

Consult counsel for further guidance on your responsibilities under these laws.

This material also triggers: SARA Section 311/312 reporting requirements (Tier II Hazardous Chemical Inventory) and SARA Section 313 requirements for reporting Toxic Substances subject to annual release (Form R).

Clean Water Act Requirements

Formaldehyde and propionic acid are listed under Section 311 as a hazardous substance requiring the submission of a National Pollutant Discharge Elimination System (NPDES) permit application to EPA.

Resource Conservation and Recovery Act (RCRA) Requirements

Formaldehyde (U122) is considered a hazardous chemical waste. Dispose in accordance with all federal, state, and local regulations.

SECTION XI - SPECIAL PRECAUTIONS AND COMMENTS

Precautionary Measures

DANGER

Harmful if swallowed, inhaled or absorbed through skin.

Product causes irritation to skin, eyes, and respiratory tract.

Always wear splash protective goggles (at a minimum) when splash potential exists.

Avoid contact with skin or clothing by wearing gloves and appropriate protective gear.

Avoid breathing mist or vapor.

Keep away from heat, sparks, and flame.

Keep container closed when not dispensing or changing out totes to avoid vapor production.

Use only with adequate ventilation.

Wash thoroughly after handling.

All personnel must be trained in proper usage of product and emergency procedures.

Safety showers and eyewash stations are required in areas of formaldehyde use.

Important

The information and data herein are believed to be accurate and have been compiled from sources believed to be reliable. It is offered for your consideration, investigation and verification. Buyer assumes all risk of use, storage and handling of the product in compliance with applicable federal, state and local laws and regulations. **KEMIN MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, CONCERNING THE ACCURACY OR COMPLETENESS OF THE INFORMATION AND DATA HEREIN. THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE SPECIFICALLY EXCLUDED.** Kemin will not be liable for claims relating to any party's use of or reliance on information and data contained herein regardless of whether it is claimed that the information and data are inaccurate, incomplete or otherwise misleading.