

**MATERIAL SAFETY DATA SHEET**

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**I. PRODUCT IDENTIFICATION**

*PRODUCT NAME:*           **KA2**  
*CHEMICAL FAMILY:*       Tertiary Amines in Solvent

**II. HAZARDOUS INGREDIENTS**

<i>INGREDIENT NAME/ CAS NUMBER</i>	<i>%</i>	<i>EXPOSURE LIMITS</i>	
		<i>OSHA PEL</i>	<i>ACGIH TLV</i>
Ethylene Glycol (CAS# 107-21-1)	3.80%	50.0 ppm-Ceiling (125.0 mg/m3-Ceiling)	100.0 mg/m3-STEL 40.000 ppm-Ceiling (100.00 mg/m3-Ceiling)

**III. PHYSICAL / CHEMICAL CHARACTERISTICS**

<i>APPEARANCE (physical form, color, texture, etc.)</i>	Amber, mobile liquid (at processing temperature)
<i>ODOR:</i>	Ammoniacal
<i>MELTING POINT:</i>	No Data
<i>BOILING POINT:</i>	225.00C (437.00F)
<i>VAPOR PRESSURE (mm Hg):</i>	5.00
<i>VAPOR DENSITY (Air = 1)</i>	No Data
<i>SPECIFIC GRAVITY (H<sub>2</sub>O = 1):</i>	1.03
<i>SOLUBILITY IN WATER:</i>	Completely (100%)

#### IV. FIRE & EXPLOSION HAZARD DATA

*FLASH POINT (Method Used):* 228.99F (109.44C) (Closed cup)

*FLAMMABLE LIMITS:*

*LEL (Lower Explosion Limit)=* Not established.

*UEL (Upper Explosion Limit)=* Not established.

*EXTINGUISHING MEDIA:* Ignition will give rise to a Class B fire. In case of large fire use: water spray, alcohol foam. In case of small fire use: carbon dioxide (CO<sub>2</sub>), dry chemical, dry sand or limestone.

*SPECIAL FIRE FIGHTING PROCEDURES:* Firefighters should wear butyl rubber boots, gloves, and body suit and a self-contained breathing apparatus.

*UNUSUAL FIRE & EXPLOSION HAZARDS:* May generate toxic or irritating combustion products. Sudden reaction and fire may result if product is mixed with an oxidizing agent. May generate carbon monoxide gas. May generate toxic nitrogen oxide gases. May generate ammonia gas. Personnel in vicinity and downwind should be evacuated.

#### V. REACTIVITY DATA

*STABILITY:* Stable

*CONDITIONS TO AVOID (if unstable):* Not applicable

*INCOMPATIBILITY (MATERIALS TO AVOID):* Mineral acids (i.e. sulfuric, phosphoric, etc.) Organic acids (i.e. acetic acid, citric acid etc.) Oxidizing agents (i.e. perchlorates, nitrates etc.) Reactive metals (i.e. sodium, calcium, zinc, etc.) Sodium or Calcium Hypochlorite. Product slowly corrodes copper, aluminum, zinc, and galvanized surfaces. Dehydrating Agents. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Materials reactive with hydroxyl compounds. A reaction accompanied by large heat release occurs when the product is mixed with acids. Heat generated may be sufficient to cause vigorous boiling creating a hazard due to splashing and splattering of hot material.

*HAZARDOUS DECOMPOSITION OR BYPRODUCTS:* Nitrogen oxide can react with water vapors to form corrosive nitric acid (TLV= 2 ppm). Carbon Monoxide in a fire. Carbon Dioxide in a fire. Ammonia when heated. Nitrogen Oxides in a fire. Irritating and toxic fumes at elevated temperatures. Nitric acid in a fire. Tetrahydrofuran. Aldehydes. The oxides of nitrogen gases (except nitrous oxide) emitted on decomposition are highly toxic.

*HAZARDOUS POLYMERIZATION:* Will not occur.

*CONDITIONS TO AVOID (if polymerization may occur):* Not applicable.

## VI. HEALTH HAZARD DATA

### ROUTES OF ENTRY:

*INHALATION?* Yes.  
*SKIN CONTACT?* Yes.  
*EYE CONTACT?* Yes.  
*INGESTION?* Yes.

### ACUTE HEALTH HAZARDS:

INHALATION- Mild respiratory tract irritant. Inhalation of mists and vapors may cause respiratory tract irritation.

SKIN- Contact with skin causes mild irritation and discomfort. Product is absorbed through the skin and may cause nausea, headache and general discomfort.

EYE- Severe eye irritant. Product vapor in low concentrations can cause lacrimation, conjunctivitis and corneal edema when absorbed into the tissue of the eye from the atmosphere. Corneal edema may give rise to a perception of "blue haze" or "fog" around lights. The effect is transient and has no known residual effect. Contact with eyes causes severe irritation and pain.

INGESTION- None known.

### CHRONIC HEALTH HAZARDS:

Repeated and/or prolonged exposures may result in: liver disorders (such as jaundice or liver enlargement), kidney disorders (such as edema, or proteinuria), nervous system disorders (such as narcosis, behavioral changes or decrease in motor function), reproductive disorders (such as birth defects or sterility), adverse eye effects (such as conjunctivitis or corneal damage), muscular dysfunction.

Effects from inhalation of vapors may be delayed. Repeated and/or prolonged exposure to low concentrations of vapor may cause sore throat, eye irritation which are transient.

*TARGET ORGANS:* Central nervous system; Eye; Liver or the hepatic system; Kidney; Reproductive system.

*CARCINOGENICITY:* This product contains no carcinogens in concentrations of 0.1 percent or greater.

*NTP (National Toxicology Program)?* NO.

*IARC (International Agency for Research on Cancer)?*NO.

*OSHA REGULATED?*NO.

*MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:* Eye disease, kidney disorders, liver disorders, neurological disorders.

## **VI. HEALTH HAZARD DATA (Continued)**

### *EMERGENCY & FIRST AID PROCEDURES:*

INHALATION- Remove to fresh air immediately. If not breathing or breathing is labored, give assisted respiration (e.g. mouth-to-mouth). Supplemental oxygen may be indicated. Seek medical attention immediately. Prevent aspiration of vomit. Turn victim's head to the side.

SKIN- Remove all contaminated clothing and shoes. Wash skin thoroughly with soap and water. Wash clothing before wearing again. Destroy contaminated leather apparel.

EYE- Flush with large amounts of water for at least 15 minutes, using fingers to hold eyelids open to insure that the eyes are being irrigated. Consult a physician if ill effects or irritation occurs.

INGESTION: If swallowed, call a physician immediately. Remove stomach contents by gastric suction or induce vomiting only as directed by medical personnel. Never give anything to an unconscious person.

## **VII. PRECAUTIONS FOR SAFE HANDLING & USE**

### *STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:*

- Stop the spill or leak.
- Ventilate the space involved.
- Clean-up personnel must be equipped with self-contained breathing apparatus and butyl rubber protective clothing.
- Wear protective clothing, boots, gloves, and eye protection.
- Reduce vapor spreading with a water spray.
- Shut off or remove all ignition sources.
- Construct a dike to prevent spreading (includes molten liquids until they freeze)
- Evacuate spill area and keep nonessential or unprotected personnel away.
- Prevent spilled material from entering soil, sewers, surface water, ground water, streams, or any other bodies of water.
- Retain any contaminated water for removal and treatment.
- Absorb small spills with inert material (e.g. dry sand, earth, chemical absorbent, etc.).
- Transfer to containers by suction, preparatory for later disposal.
- For large spills, recover spilled material with a vacuum truck.
- Flush area with water spray.
- Report spill per regulatory requirements.
- Open enclosed spaces to outside atmosphere.

*WASTE DISPOSAL METHOD*: Dispose of in accordance with applicable federal, state, and local regulations.

## **VII. PRECAUTIONS FOR SAFE HANDLING & USE (Continued)**

*EMPTY CONTAINER PRECAUTIONS:* All containers should be disposed of in an environmentally safe manner and in accordance with applicable federal, state, and local regulations.

*PRECAUTIONS TO BE TAKEN IN HANDLING & STORING:* Keep away from: acids and oxidizers. Keep in cool, dry ventilated storage and in closed containers. Store in steel containers preferably located outdoors, above ground, and surrounded by dikes to contain spills or leaks. Do not store in reactive metal containers.

Avoid contact with skin or eyes. Avoid breathing of vapors. Handle in well-ventilated workspace. When handling, do not eat, drink or smoke. Avoid using in any spray application without strict conformance to all applicable electrical codes and the OSHA limit for maximum allowable airborne concentrations.

*OTHER PRECAUTIONS:* Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations (e.g. OSHA).

## **VIII. CONTROL MEASURES (INCLUDING PERSONAL PROTECTION)**

*VENTILATION:* Maintain air concentrations in workspaces in accord with standards outlined in Section II.

*RESPIRATORY PROTECTION:* Not required under normal conditions in a well-ventilated workplace. Under the following conditions a respirator may be required:

- 1-When product vapor concentration exceeds the limits listed in Section II,
- 2-During repair and cleaning of equipment,
- 3-During transfer or discharge of the product,
- 4-Sampling,
- 5-Spray applications.

Types of respirators that may be used include the following:

- Chemical cartridge respirator with face piece to protect against the organic vapor,
  - Supplied air respirator with full-face piece (NIOSH Approved),
  - Self-contained breathing apparatus in pressure demand mode.
- In emergency conditions, use a self-contained breathing apparatus in pressure demand mode.

*SKIN PROTECTION:* Neoprene rubber gloves. Cuffed butyl rubber gloves. Nitrile rubber gloves. Rubber Gloves. The breakthrough time of the selected gloves must be greater than the intended use period. Long sleeved clothing.

*EYE PROTECTION:* Splash-proof eye goggles. In emergency situations, use eye goggles with a full-face shield.

**VIII. CONTROL MEASURES (INCLUDING PERSONAL PROTECTION)**  
**(Continued)**

*OTHER PROTECTIVE CLOTHING OR EQUIPMENT:* Safety showers and eyewash stations should be readily available and in working condition.

*WORK/HYGIENIC PRACTICES:* Wash hands, forearms, and face thoroughly after handling product and before eating, smoking, using lavatory, and at the end of the workshift. Educate and train employees in safe use of product. Follow all label instructions. Discard contaminated leather articles.

**IX. OTHER INFORMATION**

*OSHA HAZARD COMMUNICATION STATUS:* This product is considered hazardous as defined under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200. OSHA hazard classes are: Irritant. Reproductive toxin. Kidney toxin.

*RCRA STATUS:* Information not available.

*US INVENTORY (TSCA):* The ingredients of this product are listed on the TSCA inventory or are not required to be listed on the TSCA inventory.

*SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA), TITLE III:*

Sections 301-303 – Emergency Planning - Extremely Hazardous Substances:

None.

Section 304 – Emergency Release Notification – Reportable Substances:

None.

Section 311/312 – Community Right-to-Know Reporting Requirements - Emergency Hazard Categories:

Immediate health hazard. Delayed health hazard.

Section 313 – Toxic Chemical Notification & Release Inventory Reporting – Listed Substances:

Ethylene Glycol (CAS# 107-21-1) 3.8%

This information must be included in all MSDSs that are copied and distributed for this material.

*HMIS RATINGS:*

Health – 2

Flammability – 1

Reactivity – 0

(0=Minimal; 1=Slight; 2=Moderate; 3=Serious; 4=Severe)

**X. APPROVALS**

*PREPARED BY:* Janet Balvin/NC.  
*APPROVED BY:* Steve Longacre.

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