

SECTION I

PRODUCT CODE NUMBER V 6457 *TLV: See Section II
MANUFACTURER'S NAME Kobay Ammonia Products, Inc EMERGENCY INFORMATION 312-674-8244
MANUFACTURER'S ADDRESS 3601 West Jarvis Ave., Skokie, IL 60076
PRODUCT Aqua Ammonia COMMON NAME same
GENERIC NAME same CHEMICAL NAME Ammonium Hydroxide Solution
CHEMICAL FAMILY: Ammonia DOT PROPER SHIPPING NAME Ammonia Hydroxide (Aqua Ammonia)
WARNING STATEMENTS _____

SECTION II - INGREDIENTS

Description: Irritant and corrosive to skin, eye, respiratory tract and mucous membrane. May cause severe burns, eye and lung injuries.
CAS Registry No.: 1336-21-6 Formula: $\text{NH}_4\text{OH} + \text{H}_2\text{O}$ Mol. Wt.: 35.05 (NH_4OH)
29% by wt of ammonia gas dissolved in water.
Limits: 99% ammonia - 50 ppm, 35 mg/m³ (8 hr. TWA) (OSHA; 29 CFR 1910.1000).
25 ppm (8 hr. TWA) (ACGIH 1979). 50 ppm Ceiling (NIOSH recommend).
FIRE-FIGHTING PROCEDURES: Not considered a primary fire hazard, but care should be taken to avoid exposure to liquid product involved in fire. Wear splash-proof, gas-tight chemical goggles, respiratory protection, rubber gloves and clothing to avoid contact as needed. Cool fire-exposed containers.

* Threshold limit value set by (A) OSHA, (B) ACGIH, (C) See Section III, (D) Other, (NEI) Not Established (Units are in PPM unless otherwise specified)

SECTION III - PHYSICAL DATA

Freezing Pt.: -77.7°C (-108°F)
APPROXIMATE BOILING RANGE NH_3 vapors released on warming. VAPOR PRESSURE: @ 15.5°C: 420-475 mm Hg
VAPOR DENSITY: less than 1 SOLUBILITY IN WATER: Complete
SPECIFIC GRAVITY: 0.8974 PERCENT VOLATILE: 100% at 212°F
EVAPORATION RATE: Similar Appearance and Odor: Colorless liquid and pungent
~~See Section III for additional data: odor.~~

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT RANGE: None EXTINGUISHING MEDIA Non-combustible
FIRE FIGHTING PROCEDURES: See above DOT FLAMMABILITY
CLASSIFICATION: Flammable in Air: For evolved ammonia
When heated, material will give off ammonia gas, a strong irritant to Eye: 16% Eye: 25%
UNUSUAL FIRE AND EXPLOSION HAZARDS eye, respiratory tract, and moist skin. Closed containers exposed to extreme

heat may develop pressure. SECTION V - EMERGENCY AND FIRST AID PROCEDURES Combustion of released ammonia may form toxic nitrogen oxides.

EYE CONTACT: Flush with copious amount of water for 15 min. Eye lids should be held apart and away from eyeball for thorough rinsing.

SKIN CONTACT: Flush with copious amount of water while removing contaminated clothing, shoes. Do not rub, or apply ointment on affected area.

INHALATION: Remove to fresh air. Administer oxygen or artificial respiration if necessary. IF SYMPTOMS PERSIST or exposure if severe, seek prompt medical help.

INGESTION: If conscious, give large amount of water to drink, then induce vomiting. Refer immediately to a physician.

NOTE TO PHYSICIAN: Eye injury may appear as delayed phenomenon. Pulmonary edema may follow chemical bronchitis. Supportive treatment with necessary ventilatory actions, including oxygen may warrant consideration.

SECTION VI - PHYSIOLOGICAL EFFECTS AND HEALTH INFORMATION

ACUTE EFFECTS Overexposure: Skin: local irritation, burns, blister formation. Eye: burns, may lead to blindness. Ingestion: burning pain in mouth, throat, stomach, thorax, constriction of throat, coughing, followed by vomiting or diarrhea. Probable lethal ingestion dose is breathing difficulty, convulsions, shock.

OTHER REGULATORY REQUIREMENTS: Under the Comprehensive Environmental Response, Compensation, and Liability Act of any environmental release of this chemical equal to or over the reportable quantity of 1000 lbs. must be reported promptly to the National Response Center, Washington D. C. (1-800-424-8802). Any consumer product containing 5% or more ammonia requires a POISON label under HCSA (16 CFR 500.129(1)).

SECTION VII - REACTIVITY DATA

STABILITY (Conditions to Avoid): Stable at room temperature. Aqua ammonia will react exothermically with acids.

Releases ammonia vapor when heated. Avoid mixing with sulfuric acid or other strong mineral acids; mixing with hypochlorites (chlorine bleach), other halogens, sodium hydroxide. Avoid contact with iron, galvanized ~~surfaces, copper, brass, bronze, aluminum alloys, mercury, gold, silver; strong oxidizers.~~ Avoid heating.

HAZARDOUS DECOMPOSITION PRODUCTS: Ammonia decomposition to hydrogen and nitrogen gases above 450°C (842°F).

HAZARDOUS POLYMERIZATION (Conditions to Avoid): N/A

SECTION VIII - SPILL OR LEAK PROCEDURES

PROCEDURES IN CASE OF RELEASE OR SPILL: Wear respiratory protection and protective clothing; see Protective Equipment. Stop source if possible. Stay upwind and use water spray to absorb the evolved gas. Dilute with large amount of water. Contain spill by diking.

WASTE DISPOSAL METHOD: Listed as a hazardous substance under CWA (40 CFR 116.4, 40 CFR 117.3 Reportable Quantity, Category C, 100 /454 kg.). Comply with all regulations. Suitably diluted, product may be disposed of on agricultural land as fertilizer. SECTION IX - SPECIAL PROTECTION INFORMATION Keep spill from entering streams or lakes.

RESPIRATORY PROTECTION: MSA/NIOSH approved respiratory protection with full facepiece for gas and vapor contaminants effective for ammonium hydroxide and able to used for entry and escape in emergencies.

VENTILATION: Local exhaust sufficient to keep ammonia gas to 50 ppm or less. Refer to 29 CFR 1910.134 and ANSI: Z9.2-1960 for requirements and selection.

PROTECTIVE GLOVES: Rubber gloves and overshoes to prevent contact. Cotton work clothes recommended.

EYE PROTECTION: Splash-proof, gas-tight chemical safety goggles.

OTHER PROTECTIVE EQUIPMENT: N/A

SECTION X - STORAGE AND SPECIAL PRECAUTIONS

HANDLING AND STORING PRECAUTIONS: Keep in strong glass or plastic, tightly closed containers. Store in cool and well-ventilated area. Workplace: Protective equipment as discussed above should be near, but outside of ammonia area. Eyewash and safety shower in immediate vicinity.

OTHER PRECAUTIONS: Aqua ammonia is listed as a hazardous substance under EPCRA. Personal: Avoid unnecessary exposure. Use protective equipment as needed. Do not wear contact lenses without gas-tight chemical goggles.

SECTION XI - DOCUMENTARY INFORMATION

PRODUCT CODE NUMBER: _____

ISSUE DATE: 7-27-81

REPLACES MSDS NUMBER: _____

PREVIOUS PRODUCT CODE NUMBER: _____

PREVIOUSLY ISSUED: 7-22-80