



SAFETY DATA SHEET

Revision Date 10-Jul-2015

Version 2

1. IDENTIFICATION

Product Name Ammonium Hydroxide, 28%

Product Code 1625

CAS No. 1336-21-6

Synonyms Aqueous Ammonia

Chemical Formula NH₄OH

Recommended Use For laboratory, scientific, R&D or manufacturing use.

Company E K Industries, Inc.
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Joliet, IL 60432
Tel. (800) 283-4244

Emergency Telephone Call CHEMTREC 1-800-424-9300 (EKI CCN 7453)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3

Label elements

Signal word

Danger

Hazard statements

Harmful if swallowed. Causes severe skin burns and eye damage. Very toxic to aquatic life.



Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe dust/fume/gas/mist/vapors/spray. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Avoid release to the environment.

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. Call a POISON CENTER or doctor/physician if you feel unwell.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting.

Collect spillage.

Precautionary Statements - Storage

Store locked up. Store in a well-ventilated place. Keep container tightly closed.

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%
Ammonium hydroxide	1336-21-6	28-30

4. FIRST AID MEASURES

Description of first aid measures**Eye contact**

Immediately flush with plenty of water for at least 15 minutes, separating eyelids occasionally. Remove contact lenses if present. Get immediate medical attention.

Skin contact

Rinse immediately with plenty of water and seek medical advice.

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

Ingestion

Do NOT induce vomiting unless instructed to do so by medical personnel. If conscious, rinse mouth and give several glasses of water to drink. Never give anything by mouth to an unconscious person. Get immediate medical attention.

Most important symptoms and effects, both acute and delayed**Symptoms**

Causes skin and eye irritation. May cause CNS depression, dizziness, nausea, vomiting.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

Specific hazards arising from the chemical

No information available.

Hazardous combustion products No information available.

Protective equipment and precautions for firefighters

Firefighters should wear self-contained breathing apparatus with full facepiece operated in pressure-demand or other positive pressure mode.

NFPA

Health hazards 3

Flammability 0

Instability 0

Physical and Chemical Properties -

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with eyes and skin. Use personal protective equipment as required. Ensure adequate ventilation, especially in confined areas.
Environmental precautions	Should not be released into the environment. Collect spillage. Dispose of contents/container to an approved waste disposal plant.

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Absorb spill with inert material, scoop up and containerize for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling	Use personal protective equipment as required
Advice on safe handling	Avoid contact with skin, eyes or clothing. Do not breathe dust/fume/gas/mist/vapors/spray.
Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place.
Incompatible materials	Chlorine-based bleaching agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies
<u>Appropriate engineering controls</u>	
Engineering Controls	Emergency showers, eyewash stations, ventilation systems.
<u>Individual protection measures, such as personal protective equipment</u>	
Eye/face protection	Tight sealing safety goggles. Avoid contact with eyes.
Skin and body protection	Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.
Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear, colorless
Odor	Pungent
Odor threshold	No information available
pH	No information available
Melting point / freezing point	-72 C

Boiling point / boiling range	36 C
Flash point	No information available
Evaporation rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	115
Vapor density	0.60
Relative density	0.9
Water solubility	Miscible with water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	None under normal processing.
Conditions to avoid	Extremes of temperature and direct sunlight
Incompatible materials	Chlorine-based bleaching agents.
Hazardous Decomposition Products	None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	May be harmful by inhalation.
Eye contact	Risk of serious damage to eyes.
Skin contact	Contact causes severe skin irritation and burns.
Ingestion	May be harmful if swallowed.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Ammonium hydroxide 1336-21-6	= 350 mg/kg (Rat)	-	-

Information on toxicological effects

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Causes burns.
Serious eye damage/eye irritation	Risk of serious damage to eyes.
Sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	This chemical does not contain any carcinogens or potential carcinogens as listed by ACGIH, OSHA, IARC or NTP
STOT - single exposure	- May cause respiratory irritation

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Ammonium hydroxide 1336-21-6	-	8.2: 96 h Pimephales promelas mg/L LC50	0.66: 48 h water flea mg/L EC50 0.66: 48 h Daphnia pulex mg/L EC50

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods**Disposal of wastes**

Should not be released into the environment. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging

Do not reuse container. Emptied containers may contain residue. Continue to follow label warnings after container is emptied.

Chemical Name	California Hazardous Waste Status
Ammonium hydroxide 1336-21-6	Toxic Corrosive

14. TRANSPORT INFORMATION

Transportation information is provided as a general reference only and may not be applicable in all situations. This information applies to non-bulk shipments only. Per 49 CFR 173.22, it is the shipper's responsibility to ensure that all materials are properly packaged, classified and labeled prior to shipment.

DOT

UN/ID no. 2672
 Proper shipping name Ammonia solutions
 Hazard Class 8
 Packing Group III

IATA

UN/ID no. 2672
 Proper shipping name Ammonia solutions
 Hazard Class 8
 Packing Group III

15. REGULATORY INFORMATION

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical

or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Ammonium hydroxide - 1336-21-6	1.0

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Ammonium hydroxide 1336-21-6	1000 lb	-	-	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Ammonium hydroxide 1336-21-6	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Ammonium hydroxide 1336-21-6	X	X	X

16. OTHER INFORMATION

Prepared By

EKI Regulatory Affairs (Email: reg@eki-chem.com)

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10-Jul-2015

Disclaimer

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End of Safety Data Sheet