

# MATERIAL SAFETY DATA SHEET

## Ammonium Hydroxide Concentrated Solution

### SECTION 1 . Product and Company Identification

Product Name and Synonym: Ammonium Hydroxide Concentrated Solution

Product Code: 212-00

Material Uses:

Manufacturer:

OFI Testing Equipment, Inc.  
11302 Steeplecrest Drive  
Houston, TX 77065 USA  
Phone: (713) 880-9885  
Fax: (713) 880-9886

Entry Date : 5/10/2010

Print Date: 7/30/2010

24 Hour Emergency Assistance : Chemtrec 800-424-9300  
Canutec 613-996-6666

Health:	3			
Flammability:	1			
Reactivity:	0			
Hazard Rating:				
Least	Slight	Moderate	High	Extreme
0	1	2	3	4
NA = Not Applicable		NE = Not Established		

### SECTION 2 HAZARD IDENTIFICATION

Causes severe irritation and burns. Harmful if swallowed. Avoid breathing vapor or dust. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.

Emergency Overview: Danger! May be fatal if swallowed or inhaled. Early symptoms include nausea, vomiting, diarrhea, and weakness. Later effects include central nervous system effects, cardiovascular effects, and death. Affects respiratory system, heart, skeleton, circulatory system, central nervous system and kidneys. Causes irritation and burns to skin, eyes and respiratory tract. Irritation and burn effects may be delayed. Harmful if absorbed through skin.

Inhalation: May Cause Irritation and Burns to the Respiratory Tract; Symptoms May Include Coughing, Sore Throat, and Labored Breathing. Irritation and Burning Effects May Not Appear Immediately.

Ingestion: May cause Salivation, Nausea, Vomiting, Diarrhea, and Abdominal Pain, Followed by Weakness, Tremors, Shallow Respiration, Cardopedal Spasm, Convulsions, and Coma. May Cause Brain and Kidney Damage. Death May Caused by Respiratory Paralysis. Affects Heart and Circulatory System.

Skin: Causes Severe Irritation and Possibly Burns to the Skin. May be Absorbed through the Skin. Effects may not Appear Immediately.

Eye Contact: Causes Irritation. May be Extremely Irritating with Possible Burns to Eye Tissue and Permanent Eye Damage may Result.

Chronic Exposure: Chronic Exposure may Cause Mottling of Teeth and Bone Damage (osteosclerosis) and Fluorosis. Symptoms of Fluorosis Include Brittle Bones; Weight Loss, Anemia, Calcification of Ligaments, General ill Health and Joint Stiffness.

Aggravated by Exposure: Populations that Appear to be at increased Risk from the Effects of Fluoride are Individuals that Suffer from Diabetes insipidus or some forms of Renal Impairment.

### SECTION 3 MIXTURE COMPONENTS

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SARA 313	Component	CAS Number	Percent Comp.	Dimension	Exposure Limits
<input type="checkbox"/>	Ammonium Hydroxide 28-30% w/w	CAS# 1336-21-6	100%	W/V	None established

## SECTION 4 FIRST AID MEASURES

Causes severe irritation and burns. Harmful if swallowed. Avoid breathing vapor or dust. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.

FIRST AID: CALL A PHYSICIAN. SKIN: In case of contact, immediately flush skin with water for at least 15 minutes while removing contaminated clothing and shoes. Thoroughly clean clothing and shoes before reuse.

EYES: Wash eyes with plenty of water for at least 15 minutes, lifting lids occasionally. Seek Medical Aid. INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen

INGESTION: Give several glasses of milk or water. Vomiting may occur spontaneously, but DO NOT INDUCE! Never give anything by mouth to an unconscious person.

## SECTION 5 FIRE FIGHTING MEASURES

Fire Extinguisher Type:	Water spray, Carbon dioxide, dry chemical, powder, foam.
Fire / Explosion Hazards:	Gives flammable nitric acid at all temperatures, which can be explosive under some conditions. Keep personnel upwind.
Fire Fighting Procedure:	Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and clothing.

## SECTION 6 ACCIDENTAL RELEASE MEASURES

Evacuate area! Absorb spill with inert material, then place in a chemical waste container. Neutralize with a weak acid.

Autoignition Temperature: 1204 0F (651 0C), Flammable Limits in Air % by Volume: lcl-16, ucl-25.

Flammable Vapors may Accumulate in Confined Spaces.

Use any means Suitable for Extinguishing Surrounding Fire. Use Water Spray to Blanket Fire, Cool Fire Exposed Containers, and to Flush Non-Ignited Spills or Vapors away from Fire.

In the Event of Fire, Wear Full Protective Clothing and NIOSH-Approved Self-Contained Breathing Apparatus with Full Facepiece Operated in the Pressure Demand or Other Positive Pressure Mode.

## SECTION 7 HANDLING AND STORAGE

Store in a cool dry well ventalated area. Keep away from heat and flame. Do not get in eyes, on skin, or on clothing.

## SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection:	NIOSH/MSHA-approved respirator
Ventilation	Local Exhaust <input type="checkbox"/>
	Mechanical <input checked="" type="checkbox"/>
Protective Gloves:	NIOSH Approved Gloves

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Eye Protection: Goggles and Face Shield

Other Protective Equipment: Wear appropriate protective clothing to prevent skin exposure. Prevent inhalation.

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

Melting Point:	-106°C	Percent Volatile by Volume:	> 99
Boiling Point:	28°C	Evaporation Rate	1
Vapor Pressure:	115 mm Hg @ 20°C	Evaporation Standard	
Vapor Density:	1.2	Auto Ignition Temp	650.0 C
Solubility in Water:	Soluble	Lower Flamm. Limit in Air	16.0
Appearance /Odors:	Clear colorless liquid. Strong ammonia smell	Upper Flamm. Limit in Air	27.0
Flash Point:	Not applicable		
Specific Gravity:	0.9		

**SECTION 10 STABILITY AND REACTIVITY INFORMATION**

Stability: Stable

Conditions to Avoid: Heat, halogenated acids

Materials to Avoid: Strong oxidizers, halogens, bleaches

Hazardous Decomposition Products: May release nitrogen oxides

Hazardous polymerization: Will Not Occur

Conditions to Avoid: None known

**SECTION 11 Toxicological Information**

Carcinogenic References: IARC Category- None, NTP Carcinogen - Known: No

**SECTION 12 Ecological Information**

Environmental Fate: This Material is Not Expected to Significantly Bioaccumulate.

Environmental Toxicity: This material is expected to be very toxic to aquatic life. The LC50/96-hour values for fish are less than 1 mg/l. The EC50/48-hour values for daphnia are less than 1 mg/l.

**SECTION 13 Disposal Considerations**

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Although not a listed RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and

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local requirements.

**SECTION 14 Transport Information**

DOT Classification: Ammonia Solution, 8, UN2672, PG III

DOT Regulations may change from time to time. Please consult the most recent D.O.T. regulations.

**SECTION 15 Regulatory Information**

Chemical Inventory Status –  
Part 1:Ingredient  
Ammonium Hydroxide (1336-21-6)  
Water (7732-18-5)  
TSCA Yes Yes  
EC Yes Yes  
Japan YES Yes  
Australia Yes Yes

Chemical Inventory Status –  
Part 2:Ingredient  
Ammonium Hydroxide (1336-21-6)  
Water (7732-18-5)  
Korea Yes Yes  
DSL Yes Yes  
NDSL NO NO  
Phil. Yes Yes

Federal, State & International Regulations –  
Part 1: Ingredient.  
Ammonium Hydroxide (1336-21-6)  
Water (7732-18-5)  
RQ No NO  
TPQ NO NO  
List NO No  
Chemical Catg NO NO

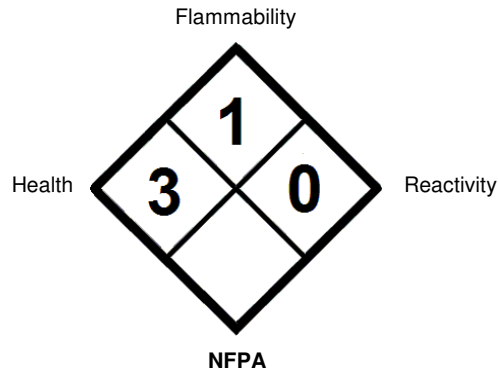
Federal, State &  
International Regulations –  
Part 2:Ingredient  
Ammonium Hydroxide (1336-21-6)  
Water (7732-18-5)  
CERCLA 1000 No  
261.33 No No  
8(d) No No

Chemical Weapons Convention: No  
TSCA 12 (b):No  
CDTA:No MIXTURE/LIQUID  
SARA 311/312: Acute:YES  
Chronic: YES  
Fire: No  
Pressure: No  
Reactivity: No  
Australian Hazchem Code: 2P  
Poison Schedule: 6S

**SECTION 16 Additional Information**

Poison! Danger! Corrosive! May be fatal if swallowed or inhaled. Mist and vapor cause burns to every area of contact. Toxic! May cause corrosion to the esophagus and stomach with perforation and peritonitis. Ingestion of as little as 3 to 4 mls may be fatal. Conditions aggravated/target organs: Persons with pre-existing skin, eye, or respiratory disorders may be more susceptible. Corrosive! Acute: Severe eye/skin burns. Irritation also to lungs, mucous membranes, and GI tract. Chronic: May cause permanent eye damage.

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Revisions

7/30/2010	0.1	updated msds to 16 section from 10 section msds. STN
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